SECTION PG

POWER SUPPLY, GROUND & CIRCUIT ELEMENTS

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PRECAUTION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:0000000001538787

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SR section.**
- **Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**

Precaution for Power Generation Variable Voltage Control System

INFOID:0000000001538788

CAUTION:

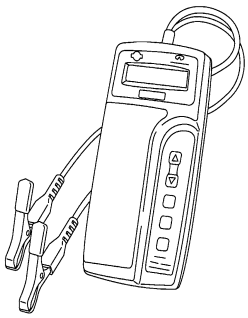
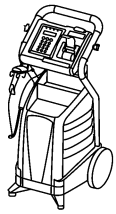
For this model, the battery current sensor that is installed to the negative battery cable measures the charging/discharging current of the battery and performs various engine controls. If an electrical component is connected directly to the negative battery terminal, the current flowing through that component will not be measured by the battery current sensor. This condition may cause a malfunction of the engine control system and battery discharge may occur. Do not connect an electrical component or ground wire directly to the battery terminal.

PREPARATION

PREPARATION

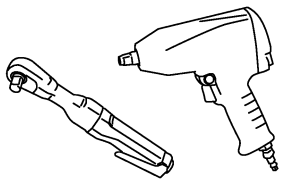
Special Service Tool

INFOID:0000000001538789

Tool number (Kent-Moore No.) Tool name	Description
— (J-44373) Battery/Starting/Charging system tester  SEL403X	Tests battery, starting and charging system.
(J-48087) Battery Service Center  WKIA5280E	Tests and charges batteries

Commercial Service Tool

INFOID:0000000001538790

Tool name	Description
Power tool  PBIC0190E	Loosening bolts and nuts

BASIC INSPECTION

BATTERY

How to Handle Battery

INFOID:0000000001531014

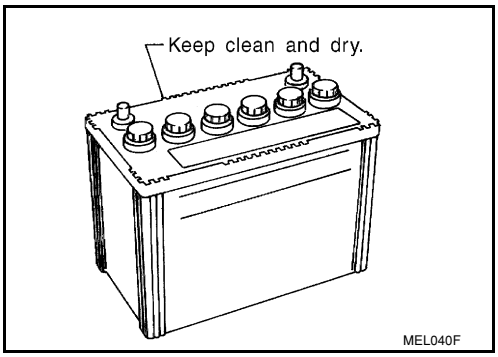
CAUTION:

- **If it becomes necessary to start the engine with a booster battery and jumper cables, use a 12-volt booster battery.**
- **After connecting battery cables, ensure that they are tightly clamped to battery terminals for good contact.**
- **Never add distilled water through the hole used to check specific gravity.**

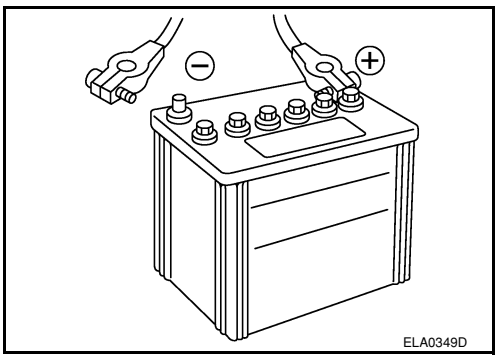
METHODS OF PREVENTING OVER-DISCHARGE

The following precautions must be taken to prevent over-discharging a battery.

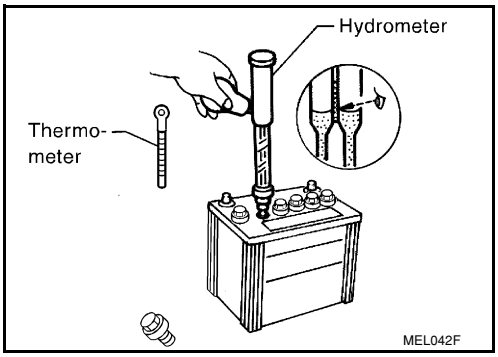
- The battery surface (particularly its top) should always be kept clean and dry.
- The terminal connections should be clean and tight.
- At every routine maintenance, check the electrolyte level.
  This also applies to batteries designated as “low maintenance” and “maintenance-free”.



- When the vehicle is not going to be used over a long period of time, disconnect the battery cable from the negative terminal. (If the vehicle has an extended storage switch, turn it off.)



- Check the charge condition of the battery.
  Periodically check the specific gravity of the electrolyte. Keep a close check on charge condition to prevent over-discharge.

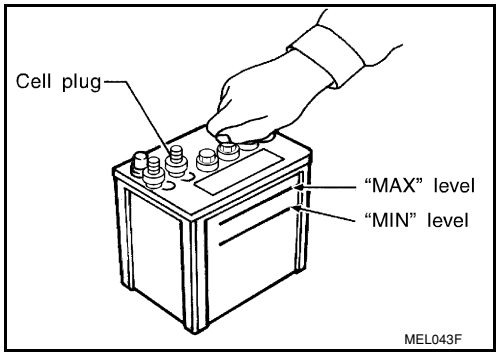


CHECKING ELECTROLYTE LEVEL

WARNING:

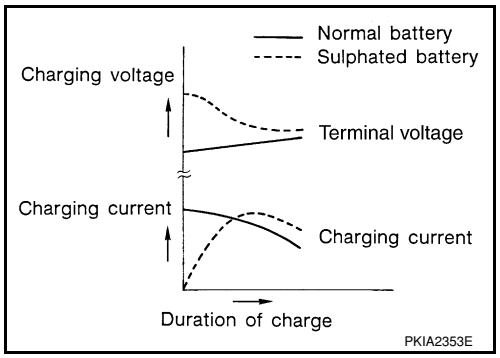
Never allow battery fluid to come in contact with skin, eyes, fabrics, or painted surfaces. After touching a battery, never touch or rub your eyes until you have thoroughly washed your hands. If acid contacts eyes, skin or clothing, immediately flush with water for 15 minutes and seek medical attention.

- Remove the cell plug using a suitable tool.
- Add distilled water up to the MAX level.



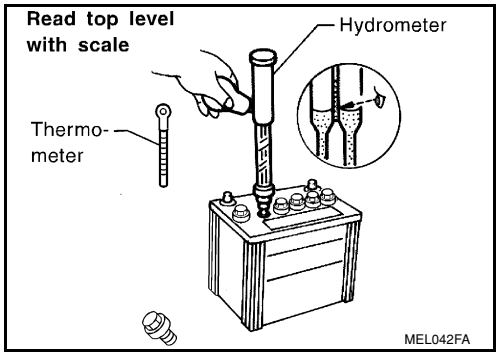
Sulphation

A battery will be completely discharged if it is left unattended for a long time and the specific gravity will become less than 1.100. This may result in sulphation on the cell plates.
To determine if a battery has been "sulphated", note its voltage and current when charging it. As shown in the figure, less current and higher voltage are observed in the initial stage of charging sulphated batteries.
A sulphated battery may sometimes be brought back into service by means of a long, slow charge, 12 hours or more, followed by a battery capacity test.



SPECIFIC GRAVITY CHECK

1. Read hydrometer and thermometer indications at eye level.
2. Use the chart below to correct your hydrometer reading according to electrolyte temperature.



Hydrometer Temperature Correction

Battery electrolyte temperature [°C (°F)]	Add to specific gravity reading
71 (160)	0.032
66 (150)	0.028
60 (140)	0.024
54 (130)	0.020
49 (120)	0.016
43 (110)	0.012
38 (100)	0.008
32 (90)	0.004
27 (80)	0
21 (70)	–0.004
16 (60)	–0.008
10 (50)	–0.012
4 (40)	–0.016
–1 (30)	–0.020
–7 (20)	–0.024

Battery electrolyte temperature [°C (°F)]	Add to specific gravity reading
–12 (10)	–0.028
–18 (0)	–0.032

Corrected specific gravity	Approximate charge condition
1.260 - 1.280	Fully charged
1.230 - 1.250	3/4 charged
1.200 - 1.220	1/2 charged
1.170 - 1.190	1/4 charged
1.140 - 1.160	Almost discharged
1.110 - 1.130	Completely discharged

CHARGING THE BATTERY

CAUTION:

- **Never "quick charge" a fully discharged battery.**
- **Keep the battery away from open flame while it is being charged.**
- **When connecting the charger, connect the leads first, then turn on the charger. Never turn on the charger first, as this may cause a spark.**
- **If battery electrolyte temperature rises above 55 °C (131 °F), stop charging. Always charge battery at a temperature below 55 °C (131 °F).**

Charging Rates

Amps	Time
50	1 hour
25	2 hours
10	5 hours
5	10 hours

Do not charge at more than 50 ampere rate.

NOTE:

The ammeter reading on your battery charger will automatically decrease as the battery charges. This indicates that the voltage of the battery is increasing normally as the state of charge improves. The charging amps indicated above refer to initial charge rate.

- If, after charging, the specific gravity of any two cells varies more than 0.050, the battery should be replaced.

Work Flow

INFOID:0000000001531015

TROUBLE DIAGNOSIS WITH BATTERY SERVICE CENTER

For battery testing, use Battery Service Center (J-48087). For details and operating instructions, refer to Technical Service Bulletin and/or Battery Service Center User Guide.

COMPONENT DIAGNOSIS

POWER SUPPLY ROUTING CIRCUIT

Wiring Diagram —Battery Power Supply —

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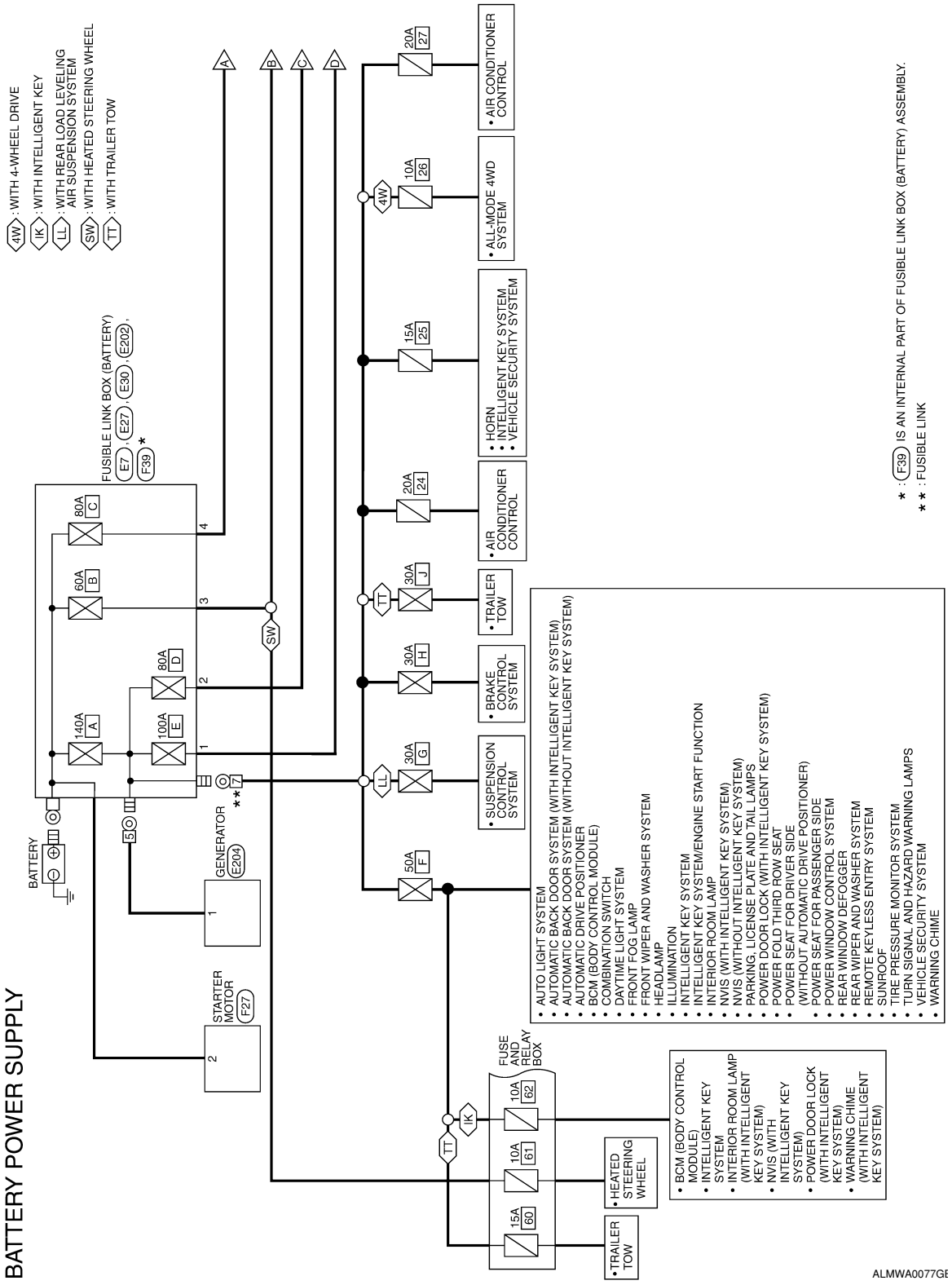
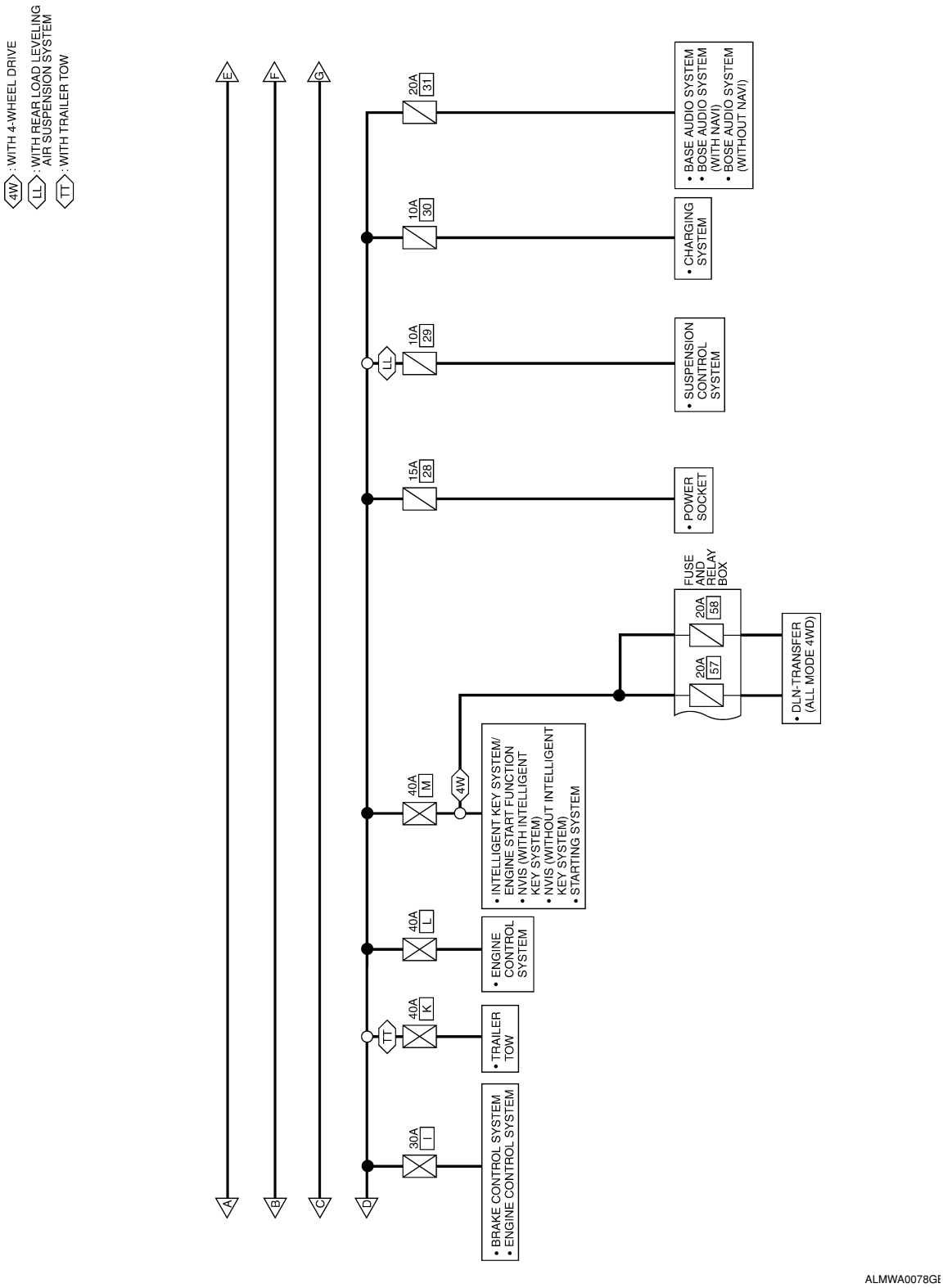
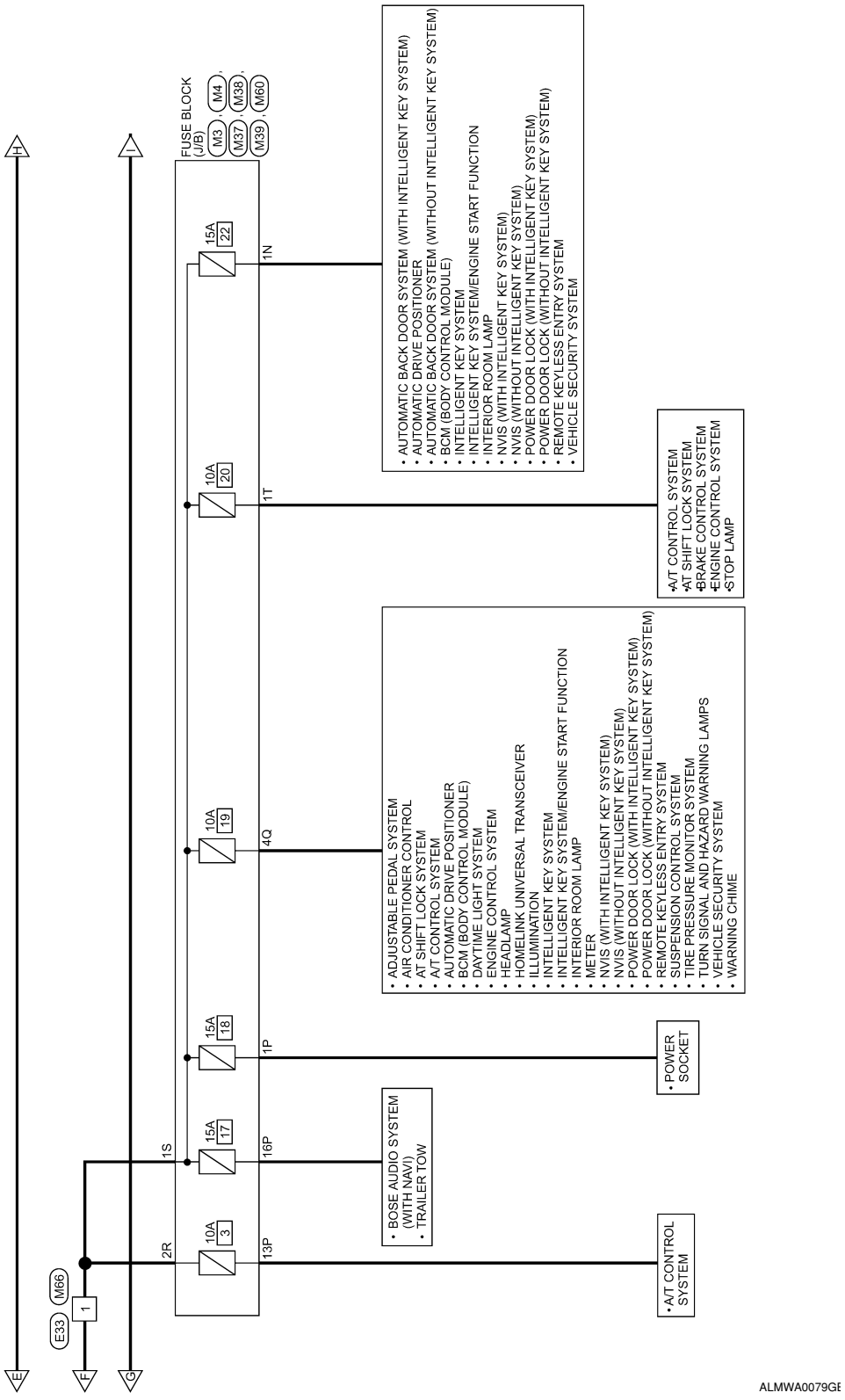
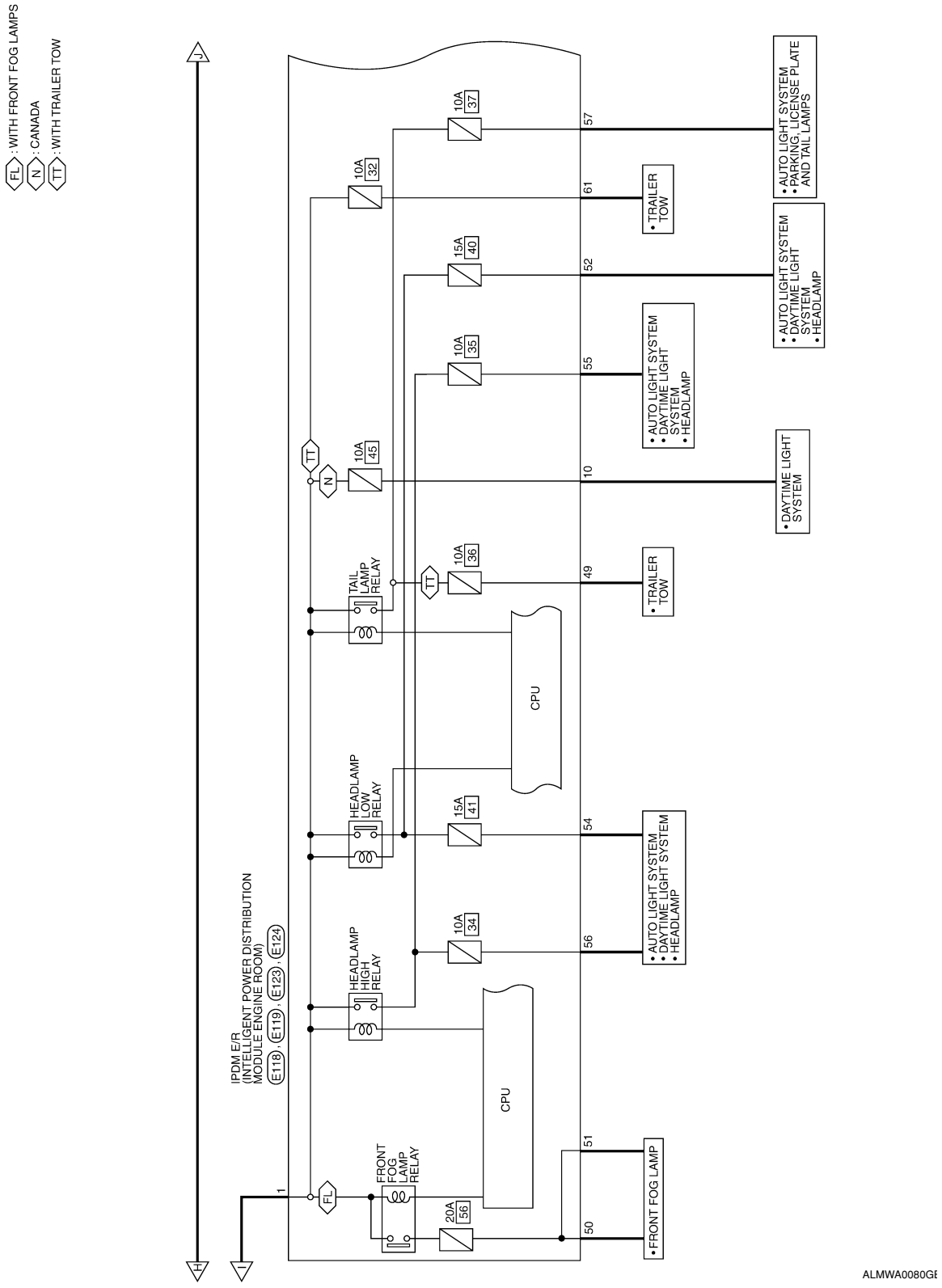
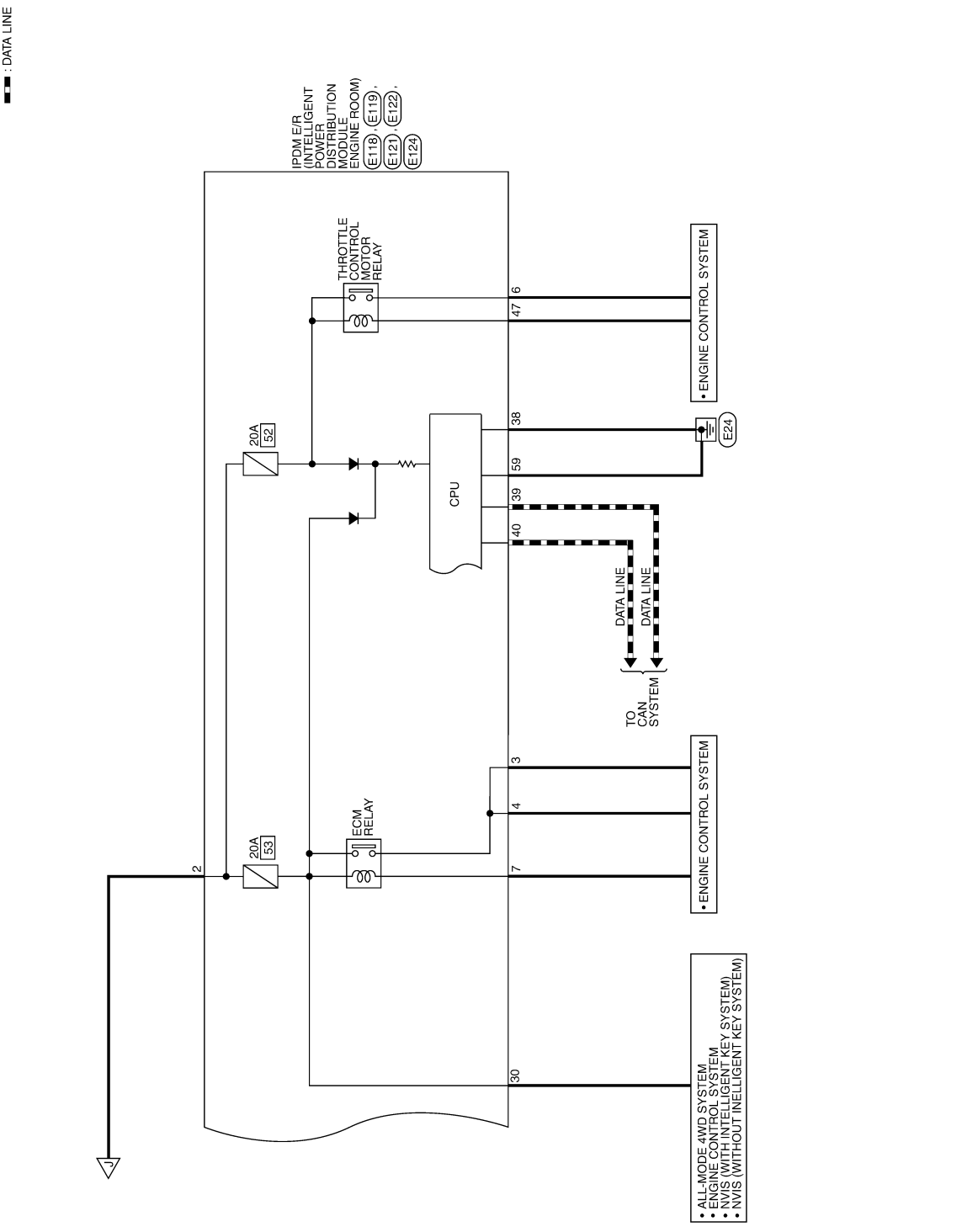



4W : WITH 4-WHEEL DRIVE
LL : WITH REAR LOAD LEVELING AIR SUSPENSION SYSTEM
TT : WITH TRAILER TOW
E
F
G
A
B
C
D
20A 31
• BASE AUDIO SYSTEM
• BOSE AUDIO SYSTEM (WITH NAVI)
• BOSE AUDIO SYSTEM (WITHOUT NAVI)
10A 30
• CHARGING SYSTEM
LL
10A 29
• SUSPENSION CONTROL SYSTEM
15A 28
• POWER SOCKET
FUSE AND RELAY BOX
20A 58
20A 57
• DLN-TRANSFER (ALL MODE 4WD)
4W
40A M
• INTELLIGENT KEY SYSTEM/ ENGINE START FUNCTION
• NVIS (WITH INTELLIGENT KEY SYSTEM)
• NVIS (WITHOUT INTELLIGENT KEY SYSTEM)
• STARTING SYSTEM
40A L
• ENGINE CONTROL SYSTEM
TT
40A K
• TRAILER TOW
30A I
• BRAKE CONTROL SYSTEM
• ENGINE CONTROL SYSTEM
ALMWA0078GB


FUSE BLOCK (J/B)
M3
M4
M37
M38
M39
M60
15A 22
10A 20
10A 19
15A 18
15A 17
10A 3
1N
1T
4Q
1P
16P
1S
13P
2R
• AUTOMATIC BACK DOOR SYSTEM (WITH INTELLIGENT KEY SYSTEM)
• AUTOMATIC DRIVE POSITIONER
• AUTOMATIC BACK DOOR SYSTEM (WITHOUT INTELLIGENT KEY SYSTEM)
• BCM (BODY CONTROL MODULE)
• INTELLIGENT KEY SYSTEM
• INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION
• INTERIOR ROOM LAMP
• NVIS (WITH INTELLIGENT KEY SYSTEM)
• NVIS (WITHOUT INTELLIGENT KEY SYSTEM)
• POWER DOOR LOCK (WITH INTELLIGENT KEY SYSTEM)
• POWER DOOR LOCK (WITHOUT INTELLIGENT KEY SYSTEM)
• REMOTE KEYLESS ENTRY SYSTEM
• VEHICLE SECURITY SYSTEM
•A/T CONTROL SYSTEM
•AT SHIFT LOCK SYSTEM
•BRAKE CONTROL SYSTEM
•ENGINE CONTROL SYSTEM
•STOP LAMP
• ADJUSTABLE PEDAL SYSTEM
• AIR CONDITIONER CONTROL
• AT SHIFT LOCK SYSTEM
• A/T CONTROL SYSTEM
• AUTOMATIC DRIVE POSITIONER
• BCM (BODY CONTROL MODULE)
• DAYTIME LIGHT SYSTEM
• ENGINE CONTROL SYSTEM
• HEADLAMP
• HOMELINK UNIVERSAL TRANSCEIVER
• ILLUMINATION
• INTELLIGENT KEY SYSTEM
• INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION
• INTERIOR ROOM LAMP
• METER
• NVIS (WITH INTELLIGENT KEY SYSTEM)
• NVIS (WITHOUT INTELLIGENT KEY SYSTEM)
• POWER DOOR LOCK (WITH INTELLIGENT KEY SYSTEM)
• POWER DOOR LOCK (WITHOUT INTELLIGENT KEY SYSTEM)
• REMOTE KEYLESS ENTRY SYSTEM
• SUSPENSION CONTROL SYSTEM
• TIRE PRESSURE MONITOR SYSTEM
• TURN SIGNAL AND HAZARD WARNING LAMPS
• VEHICLE SECURITY SYSTEM
• WARNING CHIME
• POWER SOCKET
• BOSE AUDIO SYSTEM (WITH NAVI)
• TRAILER TOW
• A/T CONTROL SYSTEM
E33
M66
1
H
I
E
F
G
ALMWA0079GB

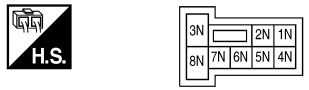

FL : WITH FRONT FOG LAMPS
N : CANADA
TT : WITH TRAILER TOW
IPDM E/R
(INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E118, E119, E123, E124
1
FL
FRONT FOG LAMP RELAY
20A 56
HEADLAMP HIGH RELAY
HEADLAMP LOW RELAY
TAIL LAMP RELAY
CPU
CPU
10A 37
10A 32
15A 40
10A 35
10A 45
10A 36
15A 41
10A 34
TT
N
TT
57
61
52
55
10
49
54
56
51
50
• AUTO LIGHT SYSTEM
• PARKING, LICENSE PLATE AND TAIL LAMPS
• TRAILER TOW
• AUTO LIGHT SYSTEM
• DAYTIME LIGHT SYSTEM
• HEADLAMP
• AUTO LIGHT SYSTEM
• DAYTIME LIGHT SYSTEM
• HEADLAMP
• DAYTIME LIGHT SYSTEM
• TRAILER TOW
• AUTO LIGHT SYSTEM
• DAYTIME LIGHT SYSTEM
• HEADLAMP
• FRONT FOG LAMP
ALMWA0080GB



ALMWA0081GE

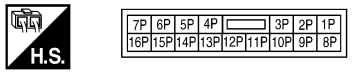
BATTERY POWER SUPPLY CONNECTORS

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1N	Y/R	–

Connector No.	M4
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1P	G	CPM_SOCKET
13P	P	–
16P	R	WOOFER

Connector No.	M37
Connector Name	FUSE BLOCK (J/B)
Connector Color	BLACK

Terminal No.	Color of Wire	Signal Name
1S	W	B

Connector No.	M38
Connector Name	FUSE BLOCK (J/B)
Connector Color	BLACK

Terminal No.	Color of Wire	Signal Name
2R	W	B

Connector No.	M39
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
4Q	Y/R	–

Connector No.	M60
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
1T	R/Y	–

ALMIA0243GB

Connector No.	M66
Connector Name	WIRE TO WIRE
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	W	–

Connector No.	E7
Connector Name	FUSIBLE LINK BOX (BATTERY)
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
3	W	–
4	R	–

Connector No.	E27
Connector Name	FUSIBLE LINK BOX (BATTERY)
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	B/R	–
2	B/Y	–

Connector No.	E33
Connector Name	WIRE TO WIRE
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	W	–

Connector No.	E118
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	B/Y	FL_USM
2	R	FL_MAIN

Connector No.	E119
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3	BR	IGN_COIL
4	W/L	ECU (VB)
6	L	ETC
7	W/B	ECM RLY CONT
10	G	DTRL RLY SUPPLY

ALMIA0244GB

Connector No.	E121
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN

H.S.

29	28		27	26	25
36	35	34	33	32	31	30

Terminal No.	Color of Wire	Signal Name
30	W	ECM BAT

Connector No.	E122
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

42	41	40	39	38	37
48	47	46	45	44	43

Terminal No.	Color of Wire	Signal Name
38	B	SIGNAL GND
39	L	CAN-H
40	P	CAN-L
47	O	ETC RLY CONT

Connector No.	E123
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN

H.S.

51		50	49
56	55	54	53	52

Terminal No.	Color of Wire	Signal Name
49	R/L	ILLUMINATION
50	W/R	FR FOG LAMP LH
51	W/R	FR FOG LAMP RH
52	L	H/LAMP LO LH
54	R/Y	H/LAMP LO RH
55	G	H/LAMP HI LH
56	Y	H/LAMP HI RH

Connector No.	E124
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

H.S.

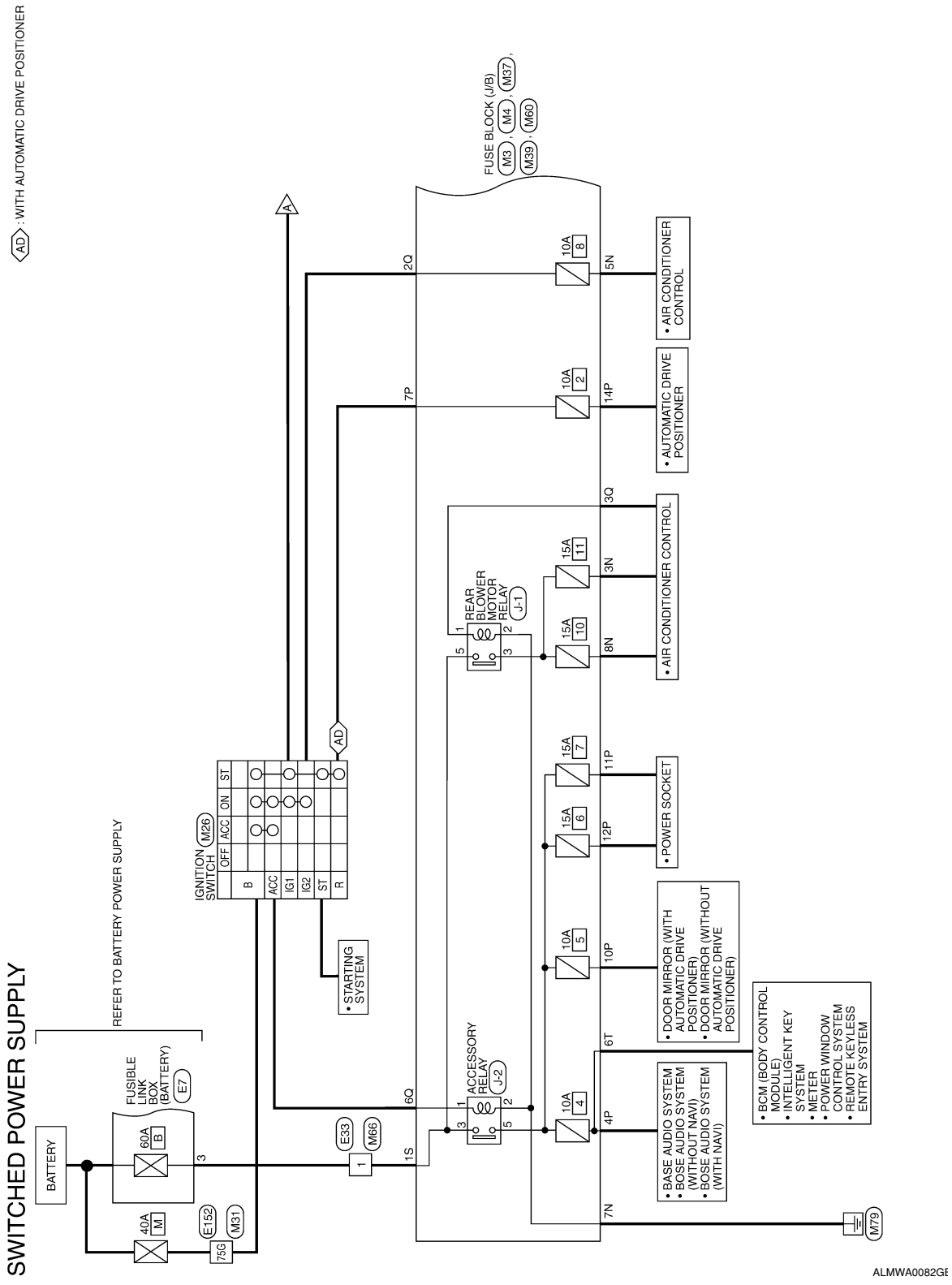
59	58	57
62	61	60

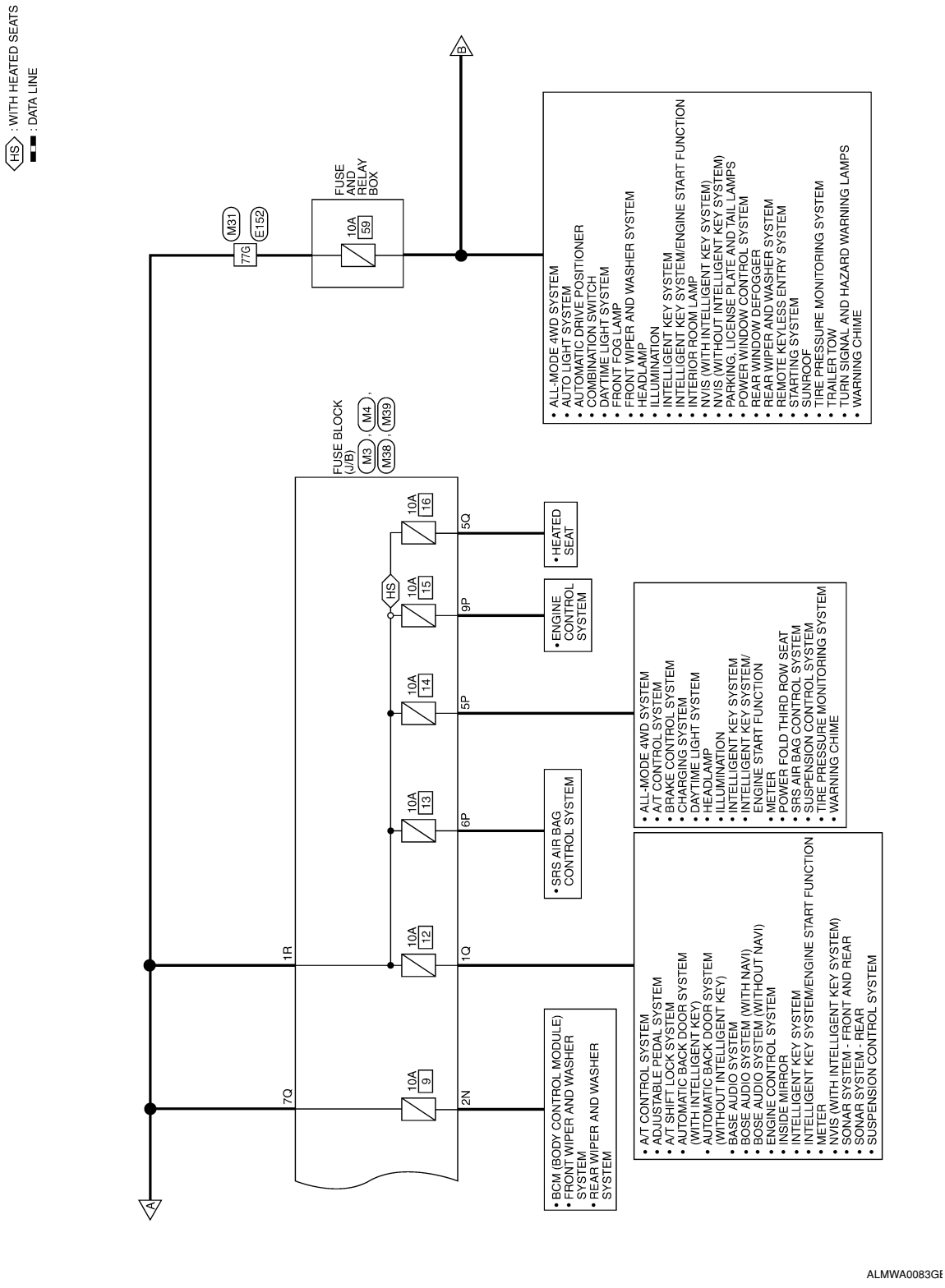
Terminal No.	Color of Wire	Signal Name
57	R/L	TAIL_LAMP
59	B	POWER GND

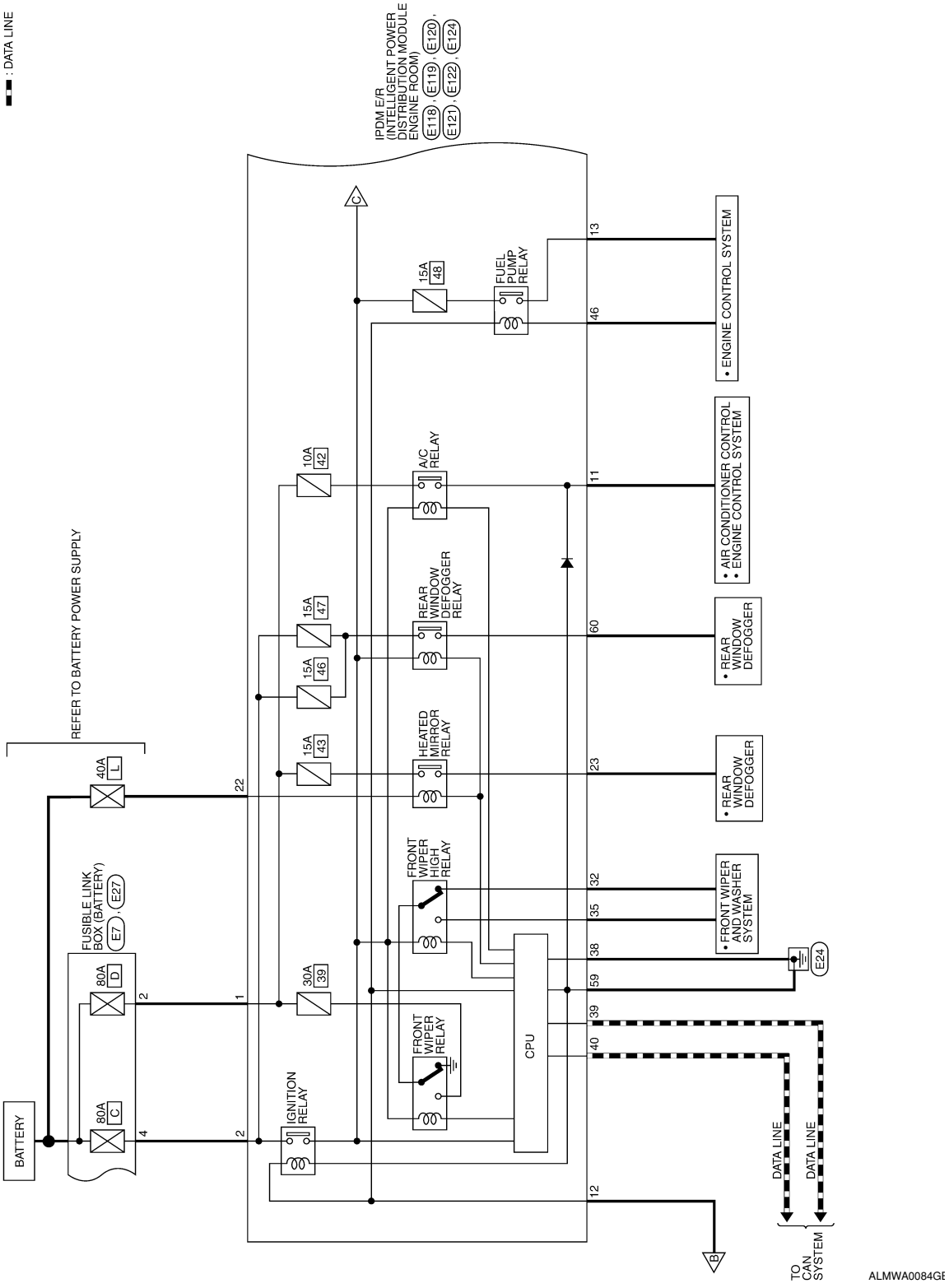
ALMIA0245GB

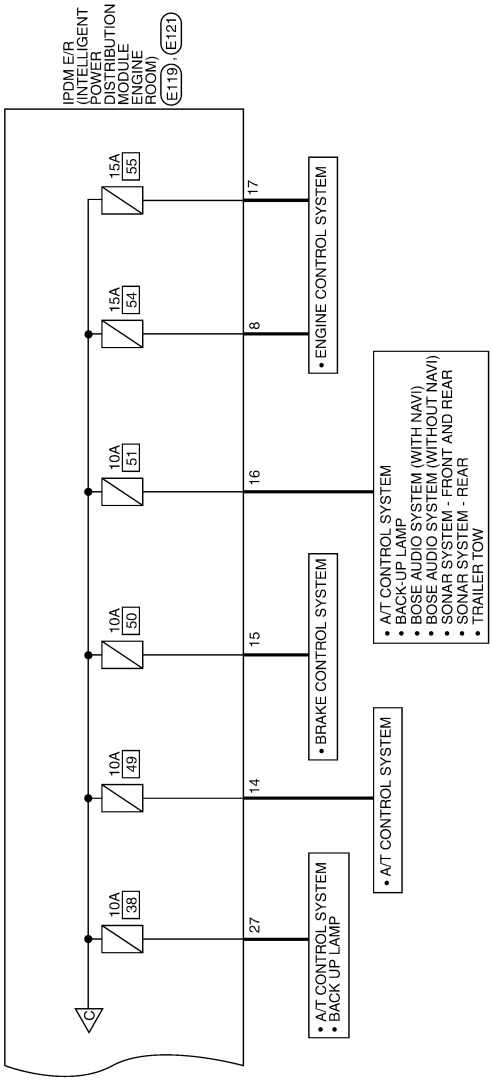
Wiring Diagram —Ignition Power Supply —

INFOID:0000000001283046




HS : WITH HEATED SEATS
: DATA LINE
B
FUSE AND RELAY BOX
10A 59
M31
E152
77G
FUSE BLOCK (J/B)
M3
M38
M4
M39
10A 16
10A 15
10A 14
10A 13
10A 12
10A 9
HS
5Q
9P
5P
6P
1Q
2N
1R
7Q
A
• ALL-MODE 4WD SYSTEM
• AUTO LIGHT SYSTEM
• AUTOMATIC DRIVE POSITIONER
• COMBINATION SWITCH
• DAYTIME LIGHT SYSTEM
• FRONT FOG LAMP
• FRONT WIPER AND WASHER SYSTEM
• HEADLAMP
• ILLUMINATION
• INTELLIGENT KEY SYSTEM
• INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION
• INTERIOR ROOM LAMP
• NVIS (WITH INTELLIGENT KEY SYSTEM)
• NVIS (WITHOUT INTELLIGENT KEY SYSTEM)
• PARKING, LICENSE PLATE AND TAIL LAMPS
• POWER WINDOW CONTROL SYSTEM
• REAR WINDOW DEFOGGER
• REAR WIPER AND WASHER SYSTEM
• REMOTE KEYLESS ENTRY SYSTEM
• STARTING SYSTEM
• SUNROOF
• TIRE PRESSURE MONITORING SYSTEM
• TRAILER TOW
• TURN SIGNAL AND HAZARD WARNING LAMPS
• WARNING CHIME
• HEATED SEAT
• ENGINE CONTROL SYSTEM
• SRS AIR BAG CONTROL SYSTEM
• ALL-MODE 4WD SYSTEM
• A/T CONTROL SYSTEM
• BRAKE CONTROL SYSTEM
• CHARGING SYSTEM
• DAYTIME LIGHT SYSTEM
• HEADLAMP
• ILLUMINATION
• INTELLIGENT KEY SYSTEM
• INTELLIGENT KEY SYSTEM/ ENGINE START FUNCTION
• METER
• POWER FOLD THIRD ROW SEAT
• SRS AIR BAG CONTROL SYSTEM
• SUSPENSION CONTROL SYSTEM
• TIRE PRESSURE MONITORING SYSTEM
• WARNING CHIME
• A/T CONTROL SYSTEM
• ADJUSTABLE PEDAL SYSTEM
• A/T SHIFT LOCK SYSTEM
• AUTOMATIC BACK DOOR SYSTEM (WITH INTELLIGENT KEY)
• AUTOMATIC BACK DOOR SYSTEM (WITHOUT INTELLIGENT KEY)
• BASE AUDIO SYSTEM
• BOSE AUDIO SYSTEM (WITH NAVI)
• BOSE AUDIO SYSTEM (WITHOUT NAVI)
• ENGINE CONTROL SYSTEM
• INSIDE MIRROR
• INTELLIGENT KEY SYSTEM
• INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION
• METER
• NVIS (WITH INTELLIGENT KEY SYSTEM)
• SONAR SYSTEM - FRONT AND REAR
• SONAR SYSTEM - REAR
• SUSPENSION CONTROL SYSTEM
• BCM (BODY CONTROL MODULE)
• FRONT WIPER AND WASHER SYSTEM
• REAR WIPER AND WASHER SYSTEM
ALMWA0083GB


: DATA LINE
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E118, E119, E120, E121, E122, E124
REFER TO BATTERY POWER SUPPLY
BATTERY
FUSIBLE LINK BOX (BATTERY)
E7, E27
40A L
80A D
80A C
30A 39
10A 42
15A 48
15A 47
15A 46
15A 43
IGNITION RELAY
FUEL PUMP RELAY
A/C RELAY
REAR WINDOW DEFOGGER RELAY
HEATED MIRROR RELAY
FRONT WIPER HIGH RELAY
FRONT WIPER RELAY
CPU
• ENGINE CONTROL SYSTEM
• AIR CONDITIONER CONTROL
• ENGINE CONTROL SYSTEM
• REAR WINDOW DEFOGGER
• REAR WINDOW DEFOGGER
• FRONT WIPER AND WASHER SYSTEM
E24
DATA LINE
DATA LINE
TO CAN SYSTEM
ALMWA0084GE



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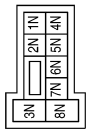
SWITCHED POWER SUPPLY CONNECTORS

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
2N	W/R	–
3N	SB	–
5N	Y/G	–
7N	B	–
8N	L/R	–

Connector No.	M4
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
4P	V	–
5P	O/L	–
6P	W/L	–
7P	LG	ST-R
9P	R/B	–
10P	O	–
11P	G/W	–
12P	L/W	–
14P	O	AUTO_DRPO

Connector No.	M26
Connector Name	IGNITION SWITCH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
IG1	B/R	–
IG2	R	–
ST	BR	–
B	G	–
ACC	V	–
R	LG	–

Terminal No.	Color of Wire	Signal Name
75G	G	–
77G	B/R	–

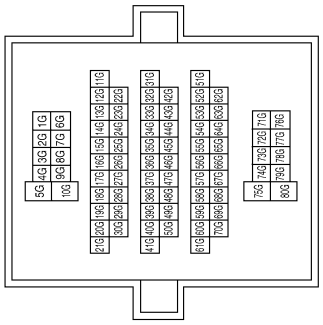
Connector No.	M37
Connector Name	FUSE BLOCK (J/B)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1S	W	B

Connector No.	M31
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.



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Connector No.	M38
Connector Name	FUSE BLOCK (J/B)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1R	B/R	IGN

Connector No.	M39
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1Q	G/R	–
2Q	R	IGN_N
3Q	Y/G	IGN_2
5Q	G	–
6Q	V	ACC
7Q	B/R	IGN

Connector No.	M60
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
6T	O	–

Connector No.	M66
Connector Name	WIRE TO WIRE
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	W	–

Connector No.	E7
Connector Name	FUSIBLE LINK BOX (BATTERY)
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
3	W	–
4	R	–

Connector No.	E27
Connector Name	FUSIBLE LINK BOX (BATTERY)
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
2	B/Y	–

ALMIA0247GB

Connector No.	E33
Connector Name	WIRE TO WIRE
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	W	–

Connector No.	E118
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	B/Y	FL_USM
2	R	FL_MAIN

Connector No.	E119
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
8	R/B	02_SENSOR
11	Y/B	AC_COMPRESSOR
12	L/W	IGN_SW (IG)
13	B/Y	FUEL_PUMP
14	Y/R	A/T CU_IGN SUPPLY
15	GR	ABS ING SUPPLY
16	G	REVERSE LAMP
17	W	INJECTOT

Connector No.	E120
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
22	G	F/L MOTOR FAN
23	GR/W	HEATED MIRROR

Connector No.	E121
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
27	W/B	TTOW REV LAMP
32	L	FR WIPER LO
35	L/B	FR WIPER HI

Connector No.	E122
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
38	B	SIGNAL GND
39	L	CAN-H
40	P	CAN-L
46	GR	FUEL PUMP RLY CONT

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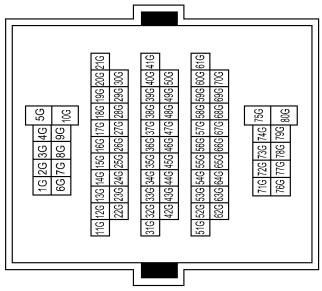
Connector No.	E152
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
75G	G	–
77G	B/R	–

Connector No.	E124
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

H.S.

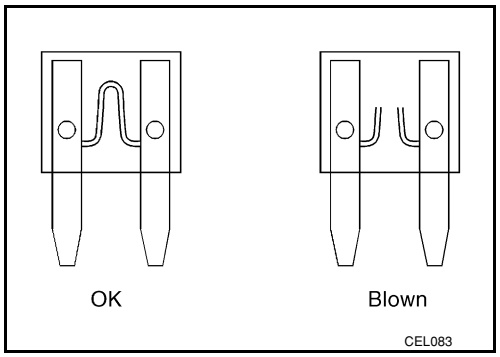
Terminal No.	Color of Wire	Signal Name
59	B	POWER GND
60	B/W	RR_DEF

ALMIA0249GB

Fuse

INFOID:0000000001283047

- If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.
- Use fuse of specified rating. Never use fuse of more than specified rating.
- Do not partially install fuse; always insert it into fuse holder properly.
- Remove fuse for “ELECTRICAL PARTS (BAT)” if vehicle is not used for a long period of time.

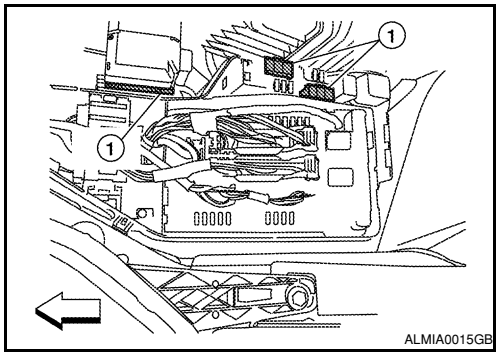


Fusible Link

INFOID:0000000001283048

A melted fusible link can be detected either by visual inspection or by feeling with finger tip. If its condition is questionable, use circuit tester or test lamp.

1 : Fusible link



CAUTION:

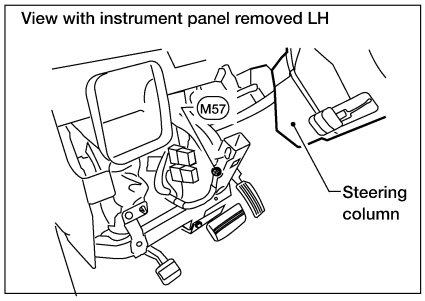
- **If fusible link should melt, it is possible that critical circuit (power supply or large current carrying circuit) is shorted. In such a case, carefully check and eliminate cause of malfunction.**
- **Never wrap outside of fusible link with vinyl tape. Important: Never let fusible link touch any other wiring harness, vinyl or rubber parts.**

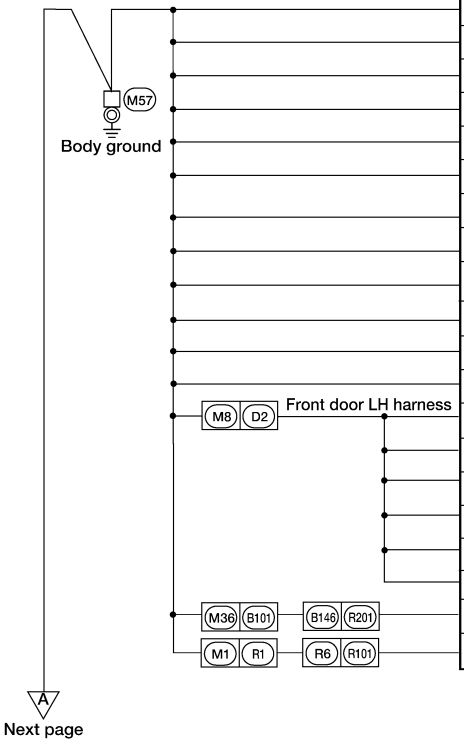
GROUND

Ground Distribution

INFOID:0000000001283049

MAIN HARNESS





CONNECTOR NUMBER	CONNECT TO
M14	Pedal adjusting control unit
M15	Steering lock solenoid
M32	In vehicle sensor
M34	Automatic drive positioner (Terminal No. 40)
M34	Automatic drive positioner (Terminal No. 48)
M76	Electric brake (pre-wiring)
M87	Rear power vent window relay (open)
M89	Rear power vent window relay (close)
M92	Power liftgate switch
M96	Pedal adjustable switch
M116	Sonar system OFF switch (Terminal No. 2)
M116	Sonar system OFF switch (Terminal No. 6)
D4	Door mirror LH (door mirror defogger)
D5	Seat memory switch
D8	Main power window and door lock/unlock switch (Terminal No. 17)
D10	Door mirror remote control switch
D14	Front door lock assembly LH
D16	Front door request switch LH
R209	Rear air control (rear)
R108	Rear air control (front)

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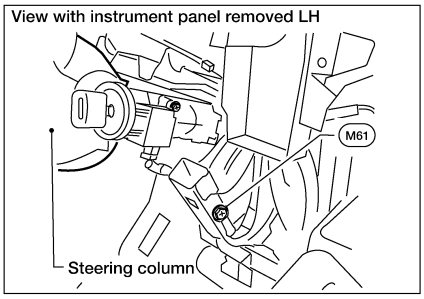

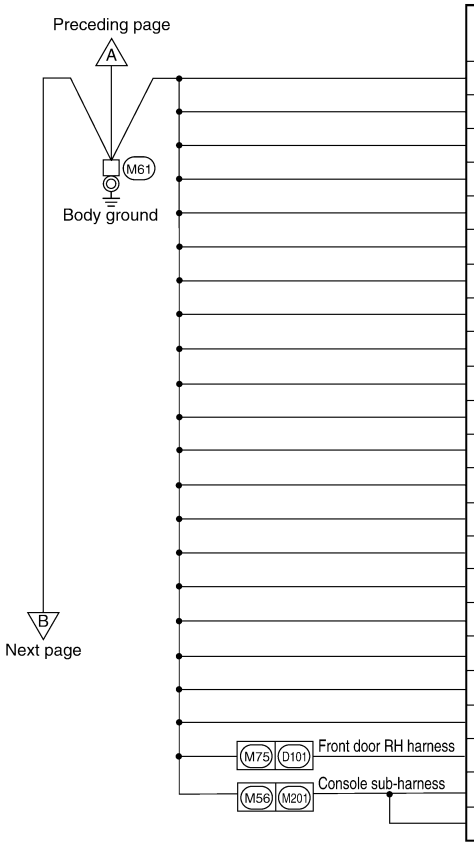

CONNECTOR NUMBER	CONNECT TO
M20	BCM (Terminal No. 67)
M21	NATS antenna amp
M22	Data link connector (Terminal No. 4)
M22	Data link connector (Terminal No. 5)
M23	Combination meter (Terminal No. 52)
M24	Combination meter (Terminal No. 9)
M28	Combination switch (Terminal No. 12)
M35	Air bag diagnosis sensor unit
M42	AV control unit (Terminal No. 20)
M44	AV control unit (Terminal No. 54)
M46	AV control unit (Terminal No. 85)
M47	Steering angle sensor
M49	Front air control
M50	A/C auto amp.
M51	Trailer tow relay 1
M70	Intelligent key unit
M107	Front blower relay
M112	BOSE speaker amp (Terminal No. 12)
M122	Variable blower control (Front)
M139	Diode-1
D107	Door mirror RH (door mirror defogger)
M203	A/T device (Terminal No. 2)
M203	A/T device (Terminal No. 8)

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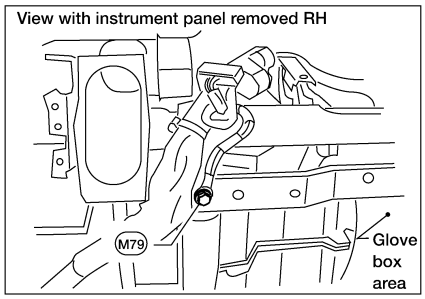

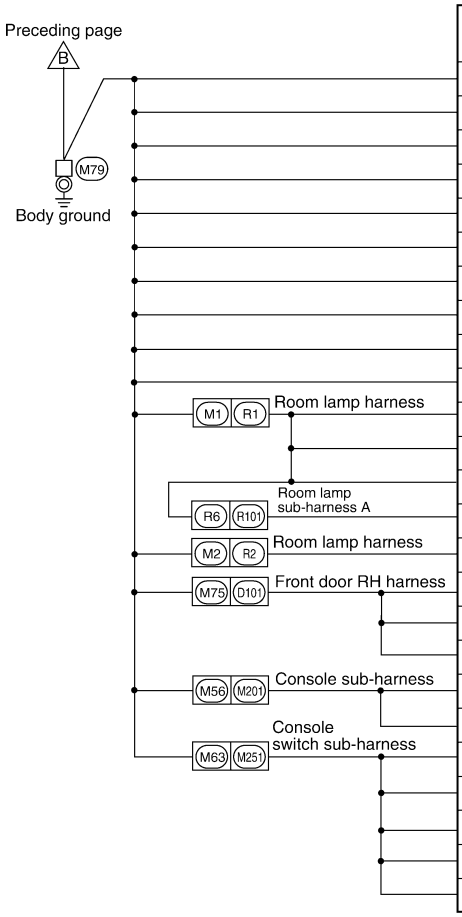

CONNECTOR NUMBER	CONNECT TO
M3	Fuse block J/B (Terminal No. 7N)
M13	Front passenger air bag off indicator
M53	Front power socket LH
M54	Front power socket RH (for cigarette lighter)
M55	Hazard switch
M59	Glove box lamp
M81	Shift lock control unit
M93	Display unit (Terminal No. 1)
M95	Rear power vent window switch
M98	A/C and AV switch assembly
R3	Vanity lamp LH
R7	Auto anti-dazzling inside mirror
R8	Vanity lamp RH
R102	Front room/map lamp assembly
R4	Sunroof motor
D105	Power window and door lock/unlock switch RH
D107	Door mirror RH (door mirror defogger)
D116	Front door request switch RH
M205	DVD player (Terminal No. 5)
M207	Console power socket
M252	Front heated seat switch RH
M255	Front heated seat switch LH
M257	VDC off switch
M258	Tow mode switch (Terminal No. 2)
M258	Tow mode switch (Terminal No. 6)

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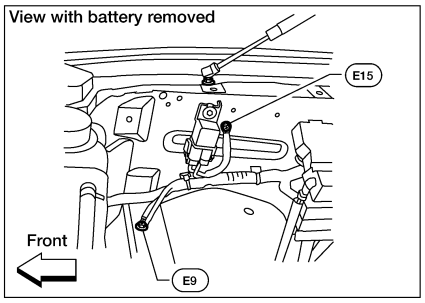
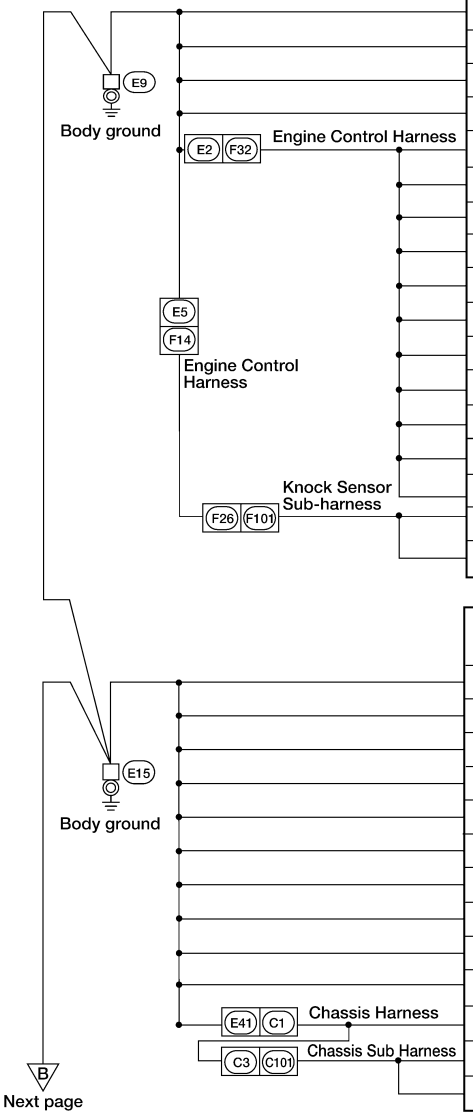
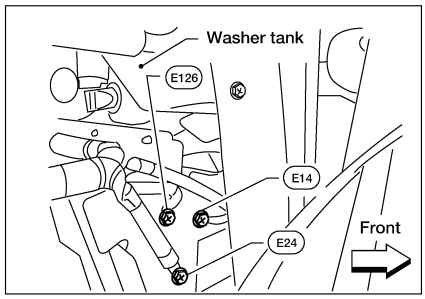




CONNECTOR NUMBER	CONNECT TO
E16	ECM (Terminal No. 115)
E16	ECM (Terminal No. 116)
E142	Transfer control unit
E143	Transfer control unit
F5	Air fuel ratio (A/F) sensor 1 (bank 2) shield
F9	A/T assembly (TCM) (Terminal No. 10)
F9	A/T assembly (TCM) (Terminal No. 5)
F11	Crankshaft position sensor (POS)
F23	Camshaft position sensor (PHASE)
F50	Electric throttle control actuator (throttle position sensor shield)
F54	ECM (Terminal No. 1)
F56	Transfer terminal cord assembly
F62	Intake valve timing control position sensor (bank 1)
F64	Intake valve timing control position sensor (bank 2)
F65	Air fuel ratio (A/F) sensor 1 (bank 1) shield
F102	Knock sensor (bank 1) shield
F104	Knock sensor (bank 2) shield

CONNECTOR NUMBER	CONNECT TO
E3	Horn
E8	Dropping resistor
E11	Front combination lamp LH (headlamp) (Terminal No. 3)
E11	Front combination lamp LH (headlamp) (Terminal No. 4)
E17	Fuel pump control module (FPCM)
E21	Brake fluid level switch
E102	Front fog lamp RH
E103	Daytime light relay
E113	Cooling fan motor
E116	Condenser 2
C5	Fuel level sensor unit and fuel pump (fuel pump)
C106	License plate lamp LH
C107	License plate lamp RH

ALMIA0234GB



Preceding page

B

Engine Control Harness

E2 F32

Chassis Harness

E41 C1

CONNECTOR NUMBER	CONNECT TO
E46	Transfer shift high relay (Terminal No. 1)
E46	Transfer shift high relay (Terminal No. 4)
E47	Transfer shift low relay (Terminal No. 1)
E47	Transfer shift low relay (Terminal No. 4)
E130	Compressor motor relay
E140	Trailer tow relay 2
E142	Transfer control unit (Terminal No. 3)
E156	Trailer turn relay LH
E157	Trailer turn relay RH
F55	ATP switch
F57	Transfer motor
F58	Transfer control device (actuator position switch) (Terminal No. 22)
F59	Wait detection switch
F60	Neutral-4LO switch
C2	Trailer
C9	Suspension air compressor (Terminal No. 1)
C9	Suspension air compressor (Terminal No. 3)

E24

Body ground

CONNECTOR NUMBER	CONNECT TO
E23	Front wiper motor
E101	Front fog lamp LH
E106	Washer fluid level switch
E107	Front combination lamp RH (headlamp) (Terminal No. 3)
E107	Front combination lamp RH (headlamp) (Terminal No. 4)
E122	IPDM E/R
E124	IPDM E/R

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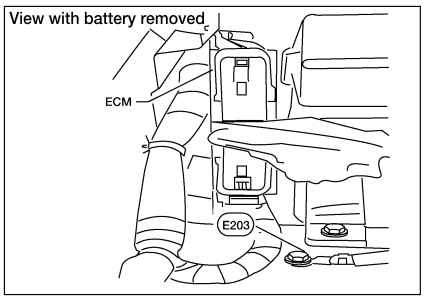
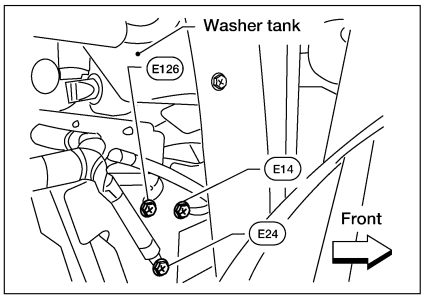
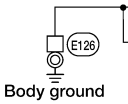




CONNECTOR NUMBER	CONNECT TO
E206	Generator



CONNECTOR NUMBER	CONNECT TO
E125	ABS actuator and electric unit (control unit) (Terminal No. 16)
E125	ABS actuator and electric unit (control unit) (Terminal No. 47)

CONNECTOR NUMBER	CONNECT TO
E4	Crash zone sensor (shield wire)

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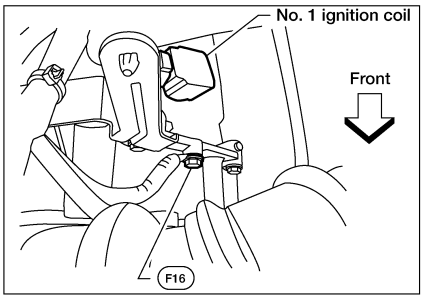
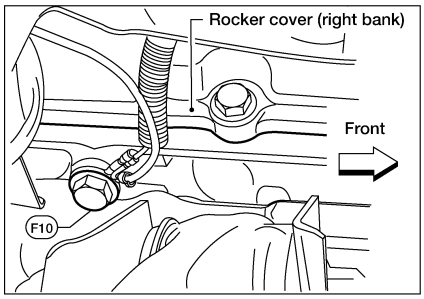
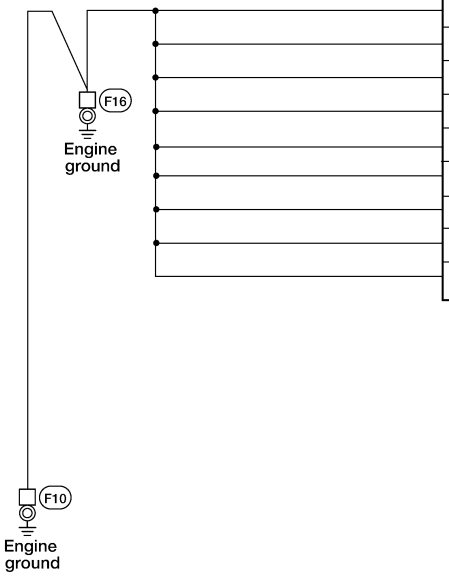
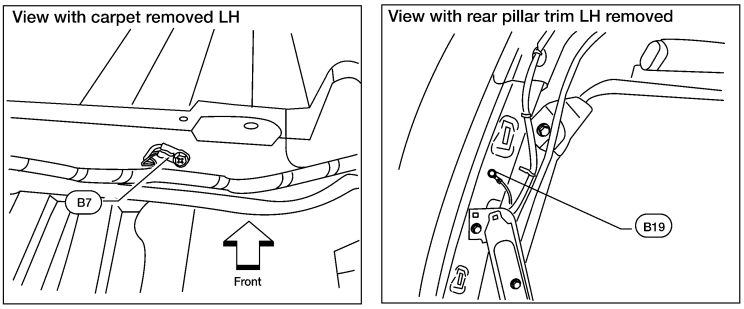


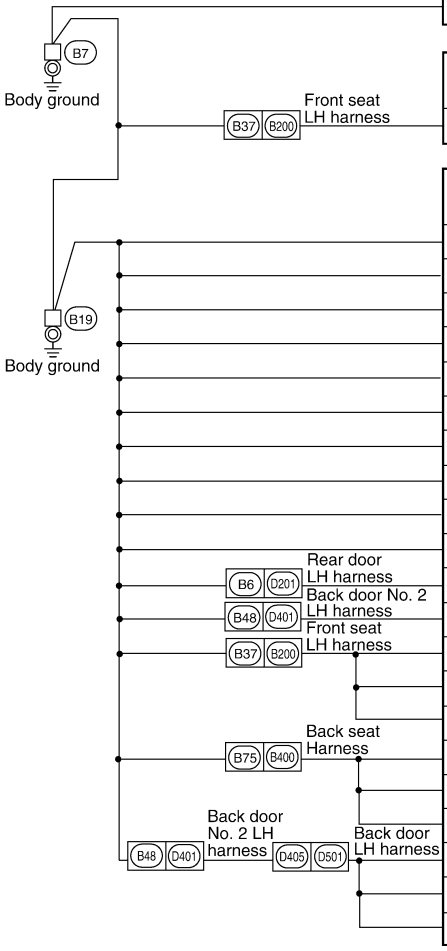




CONNECTOR NUMBER	CONNECT TO
F6	Ignition coil No. 2 (with power transistor)
F7	Ignition coil No. 4 (with power transistor)
F8	Ignition coil No. 6 (with power transistor)
F21	Condenser-1
F47	Ignition coil No. 1 (with power transistor)
F48	Ignition coil No. 3 (with power transistor)
F49	Ignition coil No. 5 (with power transistor)
F51	Ignition coil No. 7 (with power transistor)
F52	Ignition coil No. 8 (with power transistor)

ALMIA0237GB





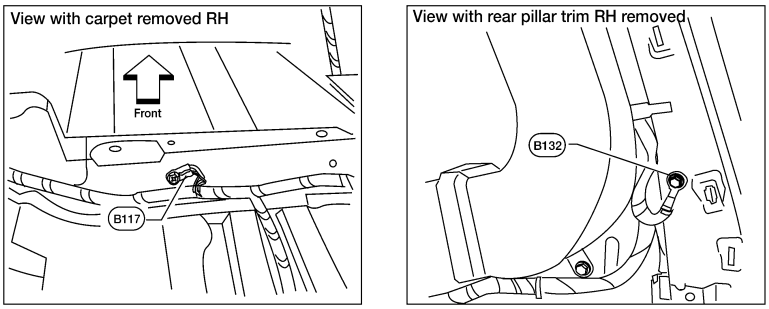
CONNECTOR NUMBER	CONNECT TO
B72	Subwoofer

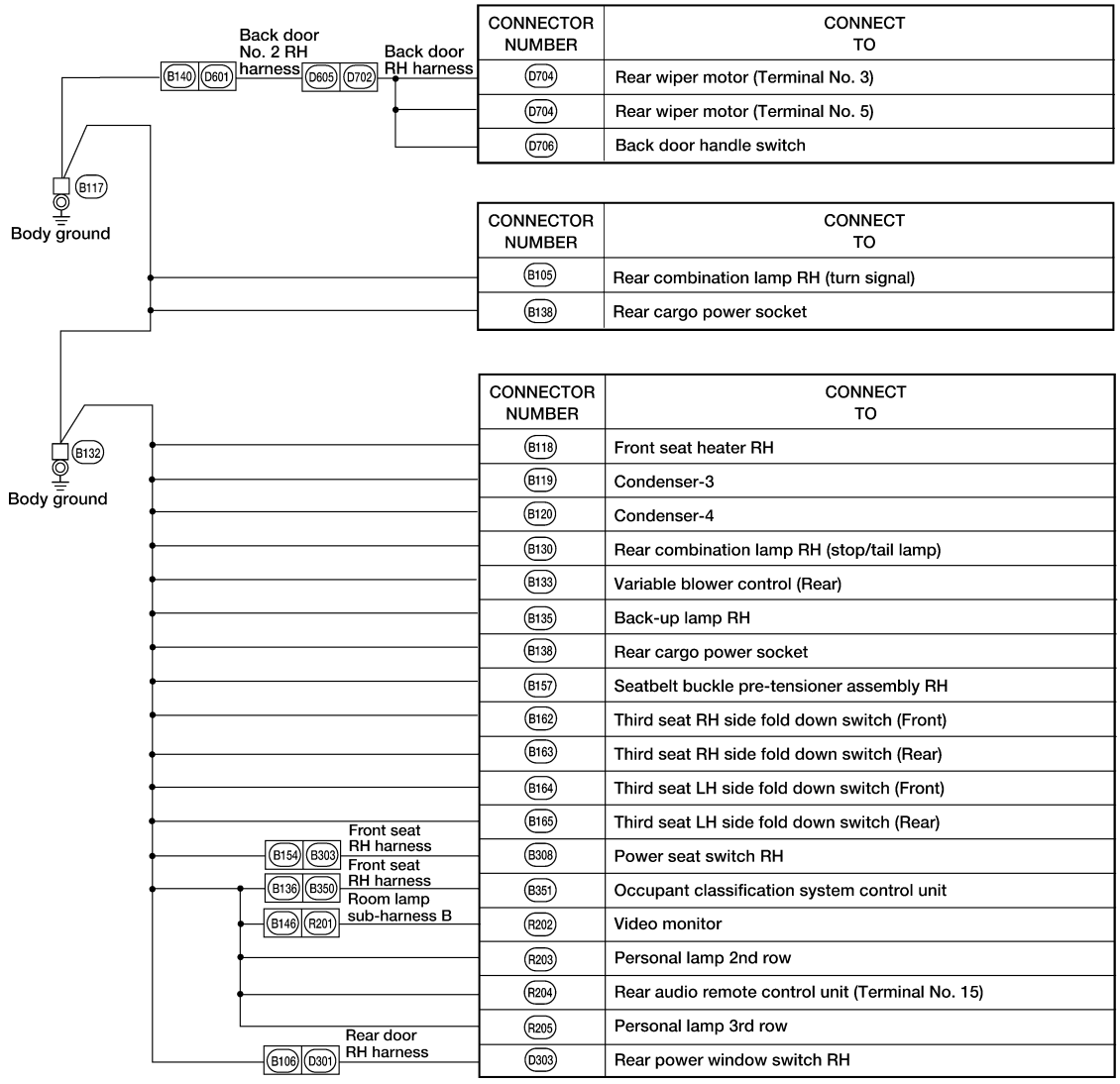
CONNECTOR NUMBER	CONNECT TO
B208	Power seat switch (Terminal No. 2)

CONNECTOR NUMBER	CONNECT TO
B3	Suspension control unit (Terminal No. 16)
B35	Rear combination lamp LH (turn signal)
B55	Back door control unit (Terminal No. 1)
B55	Back door control unit (Terminal No. 2)
B56	Sonar control unit
B63	Back door close switch
B70	Rear combination lamp LH (stop/tail lamp)
B71	Back-up lamp LH
B73	Rear view camera control unit
B74	Seat belt buckle pre-tensioner assembly LH
D203	Rear power window switch LH
D403	High mounted stop lamp
B202	Driver seat control unit (signal ground) (Terminal No. 32)
B203	Driver seat control unit (power ground) (Terminal No. 48)
B209	Front seat heater LH
B402	Third row power folding seat control unit (Terminal No. 16)
B402	Third row power folding seat control unit (Terminal No. 18)
B402	Third row power folding seat control unit (Terminal No. 21)
D502	Back door switch
D503	Back door latch
D504	Rear view camera

ALMIA0238GB

BODY NO. 2 HARNESS



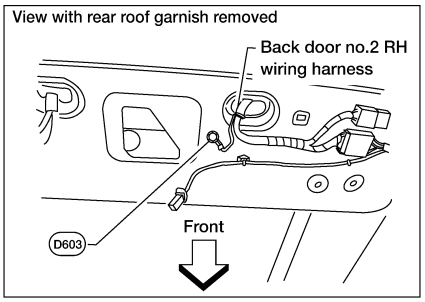


CONNECTOR NUMBER	CONNECT TO
D704	Rear wiper motor (Terminal No. 3)
D704	Rear wiper motor (Terminal No. 5)
D706	Back door handle switch

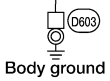
CONNECTOR NUMBER	CONNECT TO
B105	Rear combination lamp RH (turn signal)
B138	Rear cargo power socket

CONNECTOR NUMBER	CONNECT TO
B118	Front seat heater RH
B119	Condenser-3
B120	Condenser-4
B130	Rear combination lamp RH (stop/tail lamp)
B133	Variable blower control (Rear)
B135	Back-up lamp RH
B138	Rear cargo power socket
B157	Seatbelt buckle pre-tensioner assembly RH
B162	Third seat RH side fold down switch (Front)
B163	Third seat RH side fold down switch (Rear)
B164	Third seat LH side fold down switch (Front)
B165	Third seat LH side fold down switch (Rear)
B308	Power seat switch RH
B351	Occupant classification system control unit
R202	Video monitor
R203	Personal lamp 2nd row
R204	Rear audio remote control unit (Terminal No. 15)
R205	Personal lamp 3rd row
D303	Rear power window switch RH

ALMIA0239GB



CONNECTOR NUMBER	CONNECT TO
D604	Rear window defogger



ALMIA0240GB

HARNESS

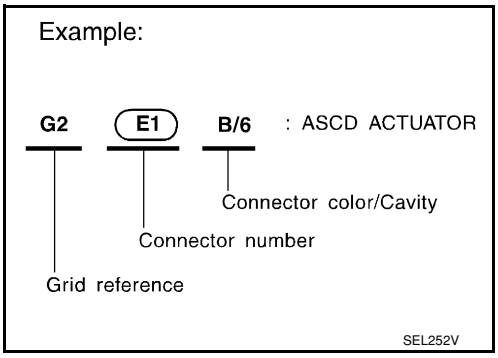
Harness Layout

INFOID:0000000001283050

HOW TO READ HARNESS LAYOUT

The following Harness Layouts use a map style grid to help locate connectors on the drawings:

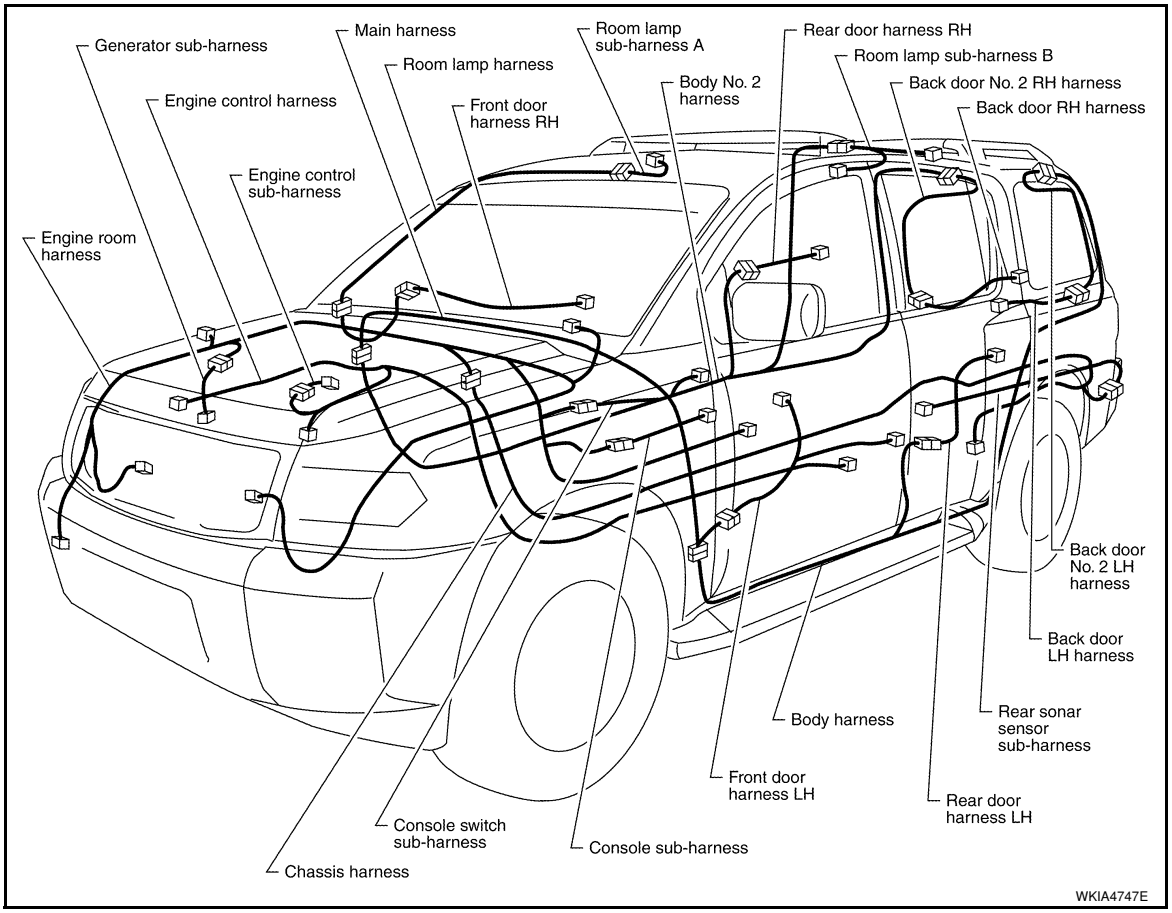
- Main Harness
- Engine Room Harness
- Engine Room Harness (Passenger Compartment)
- Engine Control Harness
- ChasisHarness
- Body Harness
- Body No. 2 Harness
- Room Lamp Harness
- Back Door Harness

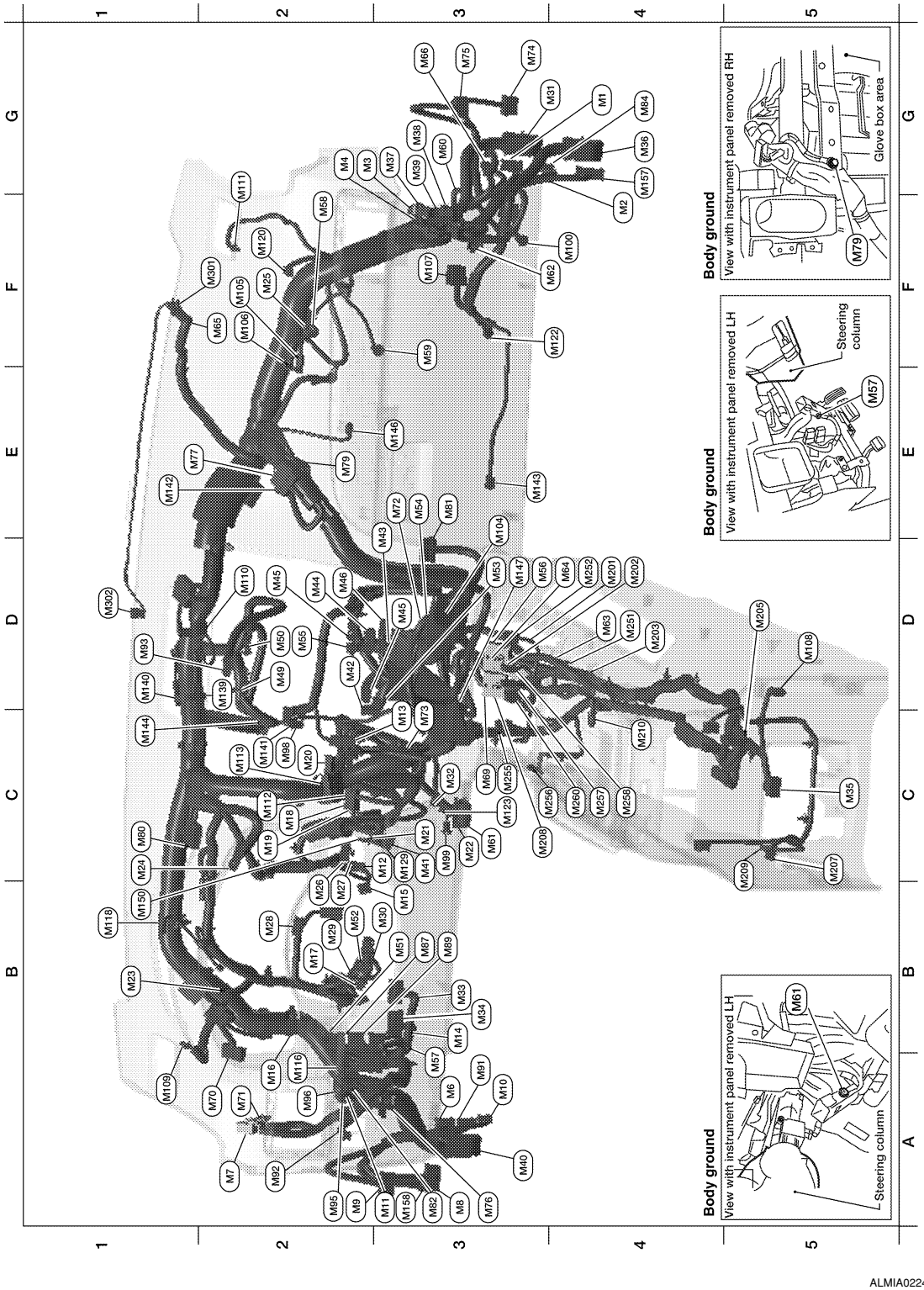


To use the grid reference

1. Find the desired connector number on the connector list.
2. Find the grid reference.
3. On the drawing, find the crossing of the grid reference letter column and number row.
4. Find the connector number in the crossing zone.
5. Follow the line (if used) to the connector.

OUTLINE



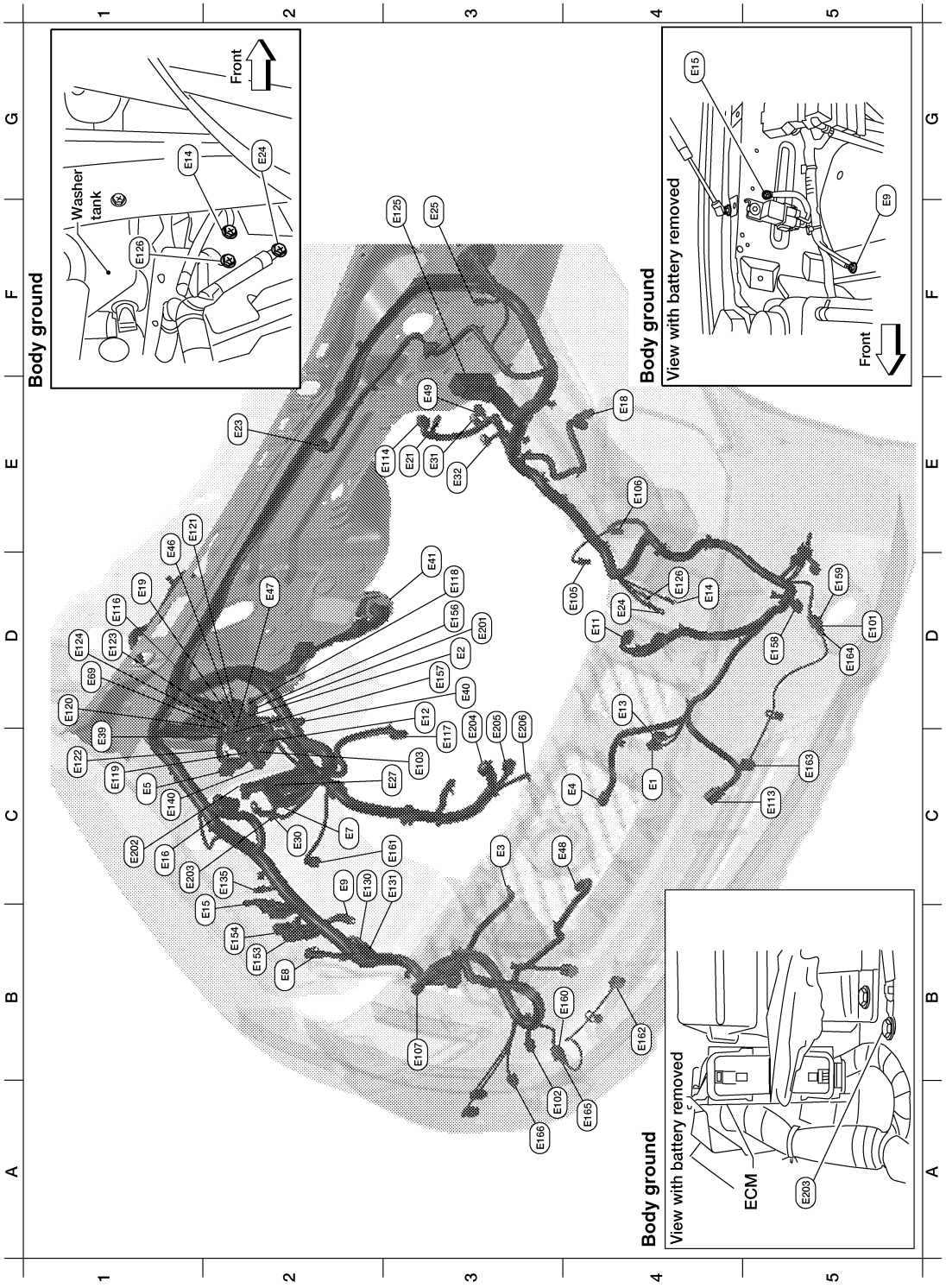


ALMIA0224GB

G4	M1	W/16	: To R1	G4	M84	W/16	: To B101
F4	M2	W/12	: To R2	B3	M87	B/5	: Rear power vent window relay (open)
G2	M3	W/8	: Fuse block (J/B)	B3	M89	B/5	: Rear power vent window relay (close)
G2	M4	W/16	: Fuse block (J/B)	B3	M91	W/16	: To E26

A3	M6	W/10	: To E10	A2	M92	B/5	: Power liftgate switch
A2	M7	B/5	: Passenger select unlock relay	D1	M93	W/24	: Display unit
A3	M8	W/16	: To D2	A2	M95	W/6	: Rear power vent window switch
A2	M9	BR/24	: To D1	A2	M96	BR/6	: Pedal adjusting switch
A3	M10	Y/4	: To E29	C2	M98	W/16	: A/C and AV switch assembly
A3	M11	B/1	: Parking brake switch	C3	M99	BR/2	: Foot lamp LH
C3	M12	GR/6	: Key switch and ignition knob switch	F4	M100	BR/2	: Foot lamp RH
D3	M13	BR/2	: Front passenger air bag OFF indicator	E3	M104	W/4	: Aux jack
B3	M14	W/16	: Pedal adjusting control unit	F2	M105	Y/2	: Front passenger air bag module
B3	M15	W/4	: Steering lock solenoid	F2	M106	O/2	: Front passenger air bag module
A2	M16	/2	: Diode-3	F3	M107	B/5	: Front blower relay
B2	M17	W/8	: Steering angle sensor	D5	M108	B/6	: Yaw rate/ side/ decel G sensor
C2	M18	W/40	: BCM (body control module)	A1	M109	BR/2	: Front tweeter LH
C2	M19	W/15	: BCM (body control module)	D2	M110	BR/2	: Center speaker
C2	M20	B/15	: BCM (body control module)	F2	M111	BR/2	: Front tweeter LH
C3	M21	W/4	: NATS antenna amp.	C2	M112	BR/14	: BOSE speaker amp.
C3	M22	W/16	: Data link connector	C2	M113	BR/23	: BOSE speaker amp.
B1	M23	W/12	: Combination meter	A2	M116	GR/8	: Rear sonar system OFF switch
C1	M24	W/24	: Combination meter	B1	M118	BR/2	: Front sonar buzzer
F2	M25	B/4	: Remote keyless entry receiver	F2	M120	W/4	: Remote keyless entry receiver
B2	M26	W/6	: Ignition switch	F4	M122	W/4	: Variable blower control
B2	M27	W/4	: Key switch and key lock solenoid	C3	M123	W/2	: Tire pressure warning check connector
B2	M28	W/16	: Combination switch	C3	M129	V/1	: Satellite radio tuner (XG)
B2	M29	Y/6	: Combination switch (spiral cable)	C3	M129	BR/1	: Satellite radio tuner (SI)
B3	M30	GR/8	: Combination switch (spiral cable)	D2	M139	B/2	: Diode-1
G4	M31	SMJ	: To E152	D1	M140	B/2	: Diode-2
C3	M32	W/4	: In-vehicle sensor	C2	M141	GR/8	: 4WD shift switch
B3	M33	W/32	: Automatic drive position control unit	E1	M142	B/6	: Mode door motor (front)
B3	M34	W/16	: Automatic drive position control unit	E3	M143	B/6	: Air mix door motor (passenger)
C5	M35	Y/28	: Air bag diagnosis sensor unit	C1	M144	M207	M207
G4	M36	SMJ	: To B149	E3	M146	GR/2	: Intake sensor
G3	M37	B/1	: Fuse block (J/B)	D3	M147	B/6	: Air mix door motor (driver)
G3	M38	B/2	: Fuse block (J/B)	B1	M150	W/2	: Ignition keyhole illumination
D3	M39	W/8	: Fuse block (J/B)	G4	M157	W/20	: To B161
A3	M40	SMJ	: To B69	A3	M158	W/10	: To D3
C3	M41	W/16	: Satellite radio tuner	Console sub-harness			
D2	M42	W/20	: AV control unit	D4	M201	W/16	: To M56
D2	M43	W/12	: AV control unit (with NAVI)	D4	M202	BR/24	: To M64
E3	M43	W/12	: AV control unit (without NAVI)	D4	M203	W/12	: A/T device
D2	M44	W/32	: AV control unit (with NAVI)	D5	M205	W/32	: DVD player
D2	M44	W/24	: AV control unit (without NAVI)	C5	M207	B/3	: Console power socket
D2	M45	W/16	: AV control unit (without NAVI)	C4	M208	BR/20	: To M69
D3	M45	W/40	: AV control unit (with NAVI)	C5	M209	W/2	: Inside key antenna 2 (rear of center console)
D2	M46	W/32	: AV control unit	C4	M210	GR/2	: Inside key antenna 3 (front of center console)

D2	M49	L/26	: A/C auto AMP	Console switch sub-harness			
D2	M50	B/26	: A/C auto AMP	D4	M251	BR/20	: To M63
B3	M51	L/4	: Trailer tow relay 1	D4	M252	BR/6	: Front heated seat switch RH
B2	M52	W/2	: Combination switch (spiral cable)	C3	M255	BR/6	: Front heated seat switch LH
D3	M53	B/3	: Front power socket LH	C4	M256	B/2	: A/T device (illumination)
E3	M54	B/3	: Front power socket RH (for cigarette lighter)	C4	M257	GR/6	: VDC OFF switch
D2	M55	W/4	: Hazard switch	C4	M258	GR/6	: Tow mode switch
D4	M56	W/16	: To M201	C4	M260	W/6	: Heated steering wheel switch
A3	M57	—	: Body ground	Optical sensor sub-harness			
F2	M58	B/6	: Intake door motor	F1	M301	W/4	: To
F3	M59	BR/2	: Glove box lamp	D1	M302	B/4	: Optical sensor
G3	M60	W/6	: Fuse block (J/B)				
C3	M61	—	: Body ground				
F4	M62	B/2	: Front blower motor				
D4	M63	BR/20	: To M251				
D4	M64	BR/24	: To M202				
F2	M65	W/4	: To M401				
G3	M66	BR/1	: To E33				
C3	M69	BR/20	: To M208				
A2	M70	W/40	: Intelligent key unit				
A2	M71	L/4	: Heated steering relay				
E3	M72	W/12	: AV control unit				
D3	M73	BR/6	: Back-up lamp relay				
G3	M74	BR/24	: To D102				
G3	M75	W/10	: To D101				
A3	M76	W/6	: Electric brake (pre-wiring)				
E2	M77	Y/4	: Front passenger air bag module (service replacement)				
E2	M79	—	: Body ground				
C1	M80	B/2	: Resistor				
E3	M81	GR/10	: Shift lock control unit				
A3	M82	GR/2	: Circuit breaker-2				



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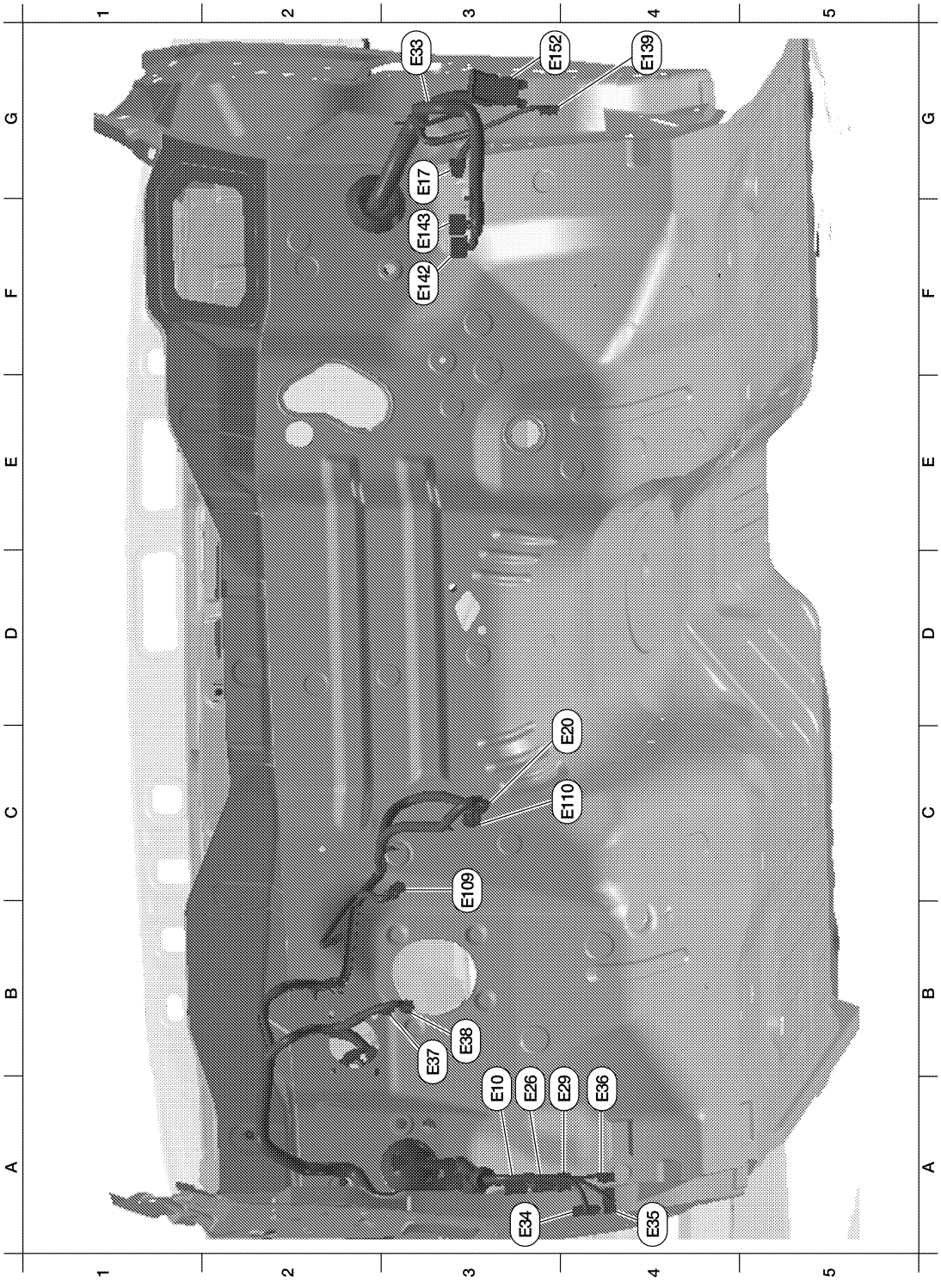
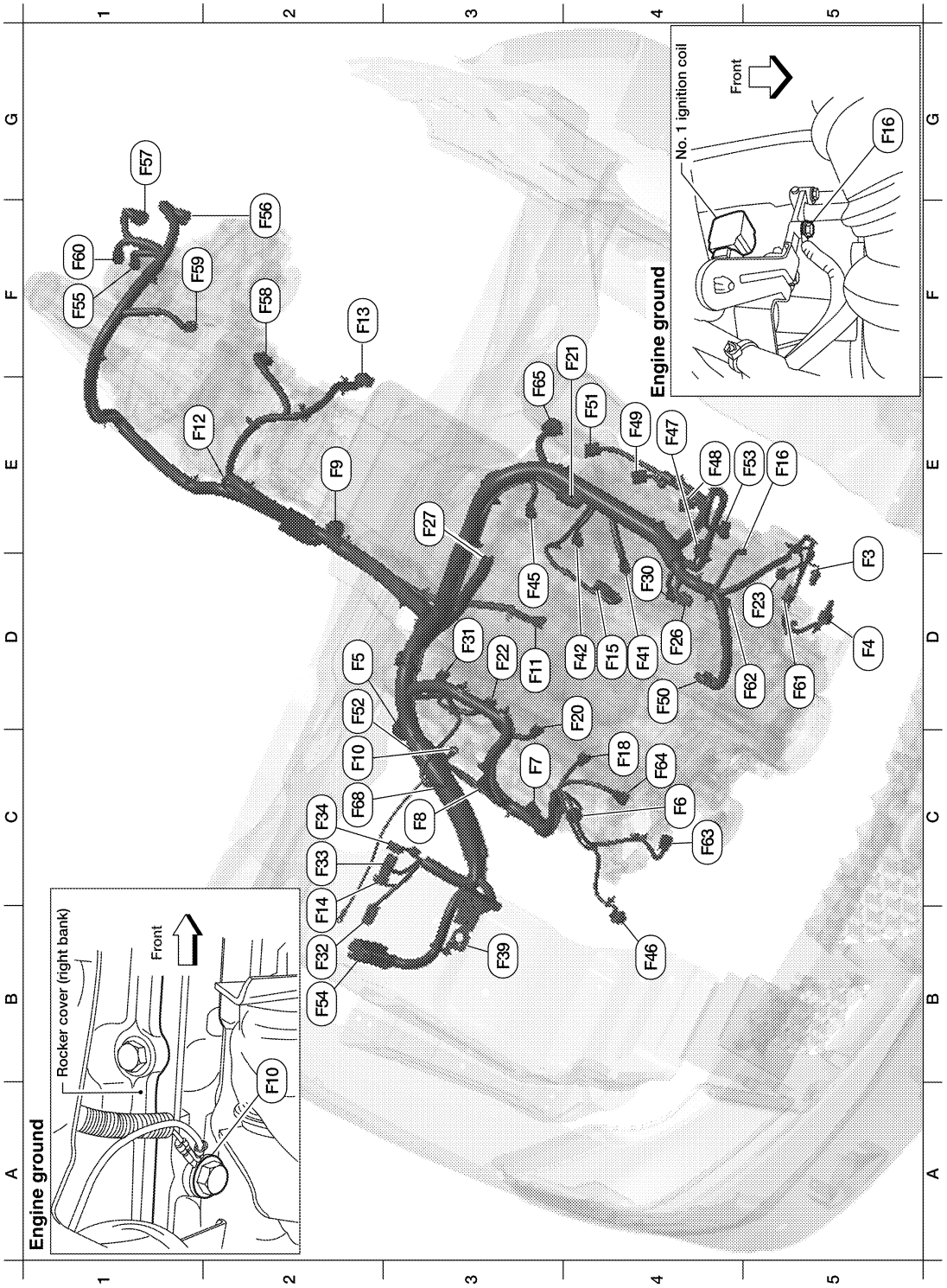
C4	E1	GR/2	: Ambient sensor	E3	E114	B/6	: Delta stroke motor
D3	E2	W/16	: To F32	D1	E116	W/2	: Condenser-2
C3	E3	B/2	: Horn	D3	E117	GR/2	: Front wheel sensor RH
C3	E4	Y/2	: Crash zone sensor	D3	E118	B/2	: IPDM E/R (intelligent power distribution module engine room)

C1	E5	W/24	: To F14	C1	E119	W/16	: IPDM E/R (intelligent power distribution module engine room)
C2	E7	GR/2	: Fusible link box (battery)	D1	E120	W/6	: IPDM E/R (intelligent power distribution module engine room)
B2	E8	GR/2	: Dropping resister	E1	E121	BR/12	: IPDM E/R (intelligent power distribution module engine room)
C2	E9	—	: Body ground	C1	E122	W/12	: IPDM E/R (intelligent power distribution module engine room)
D4	E11	B/6	: Front combination lamp LH (without daytime running lights)	C1	E123	BR/8	: IPDM E/R (intelligent power distribution module engine room)
D4	E11	B/8	: Front combination lamp LH (with daytime running lights)	D1	E124	W/6	: IPDM E/R (intelligent power distribution module engine room)
D3	E12	B/5	: Stop lamp relay	F3	E125	B/47	: ABS actuator and electric unit (control unit)
D4	E13	GR/2	: Ambient sensor 2	D4	E126	—	: Body ground
D4	E14	—	: Body ground	C2	E130	W/2	: Compressor motor relay
C2	E15	—	: Body ground	C3	E131	W/2	: Compressor motor relay
C1	E16	B/40	: ECM	C2	E135	GR/2	: Transfer dropping resister
E4	E18	GR/2	: Front wheel sensor LH	C1	E140	BR/6	: Trailer tow relay-2
D1	E19	W/16	: To F33	B2	E153	W/2	: Transfer motor relay
E3	E21	GR/2	: Brake fluid level switch	B2	E154	W/2	: Transfer motor relay
E2	E23	GR/6	: Front wiper motor	D3	E156	L/4	: Trailer turn relay LH
D4	E24	—	: Body ground	D3	E157	L/4	: Trailer turn relay RH
F3	E25	BR/3	: Intelligent key warning buzzer	D5	E158	B/3	: Front sonar sensor LH outer
C3	E27	BR/2	: Fusible link box (battery)	D5	E159	GR/3	: To E164
C2	E30	/1	: Fusible link box (battery)	B4	E160	GR/3	: To E165
E3	E31	GR/3	: Front pressure sensor	C3	E161	B/3	: Battery current sensor
E3	E32	GR/3	: Rear pressure sensor	B4	E162	B/3	: Front sonar sensor RH inner
E1	E39	W/2	: To F34	C5	E163	B/3	: Front sonar sensor LH inner
D3	E40	B/3	: To E201	D5	E164	GR/3	: To E159
D3	E41	SMJ	: To C1	A4	E165	GR/3	: To E160
E1	E46	B/5	: Transfer shift high relay	A3	E166	B/3	: Front sonar sensor RH outer
D2	E47	B/5	: Transfer shift low relay	Engine room sub-harness			
C4	E48	B/3	: Refrigerant pressure sensor	D3	E201	B/3	: To E40
E3	E49	B/6	: Active booster	C1	E202	/1	: Fusible link box (battery)
D1	E69	L/4	: Transfer shut off relay	C2	E203	—	: Engine ground
D5	E101	B/2	: Front fog lamp LH	C3	E204	/1	: Generator
A4	E102	B/2	: Front fog lamp RH	C3	E205	B/3	: Generator
C3	E103	B/5	: Daytime light relay	C3	E206	/1	: Generator
D4	E105	BR/2	: Front and rear washer motor				
E4	E106	BR/2	: Washer fluid level switch				
B3	E107	B/6	: Front combination lamp LH (without daytime running lights)				
B3	E107	B/8	: Front combination lamp LH (with daytime running lights)				
C5	E113	W/2	: Cooling fan motor				



A3	E10	W/10	: To M6				
G3	E17	W/4	: Fuel pump control module (FPCM)				
C4	E20	B/8	: Accelerator pedal position sensor				
C4	E26	W/16	: To M91				
B4	E29	Y/4	: To M10				

G3	E33	B/1	: To M66				
A3	E34	W/24	: To B40				
A4	E35	W/12	: To B41				
A4	E36	W/2	: To B42				
B3	E37	BR/2	: ASCD brake switch				
B3	E38	B/2	: Stop lamp switch				
B3	E109	GR/2	: Pedal adjusting motor				
C4	E110	GR/3	: Pedal adjusting sensor				
G4	E139	W/8	: To B107				
F3	E142	W/24	: Transfer control unit				
F3	E143	GR/24	: Transfer control unit				
G3	E152	SMJ	: To M31				



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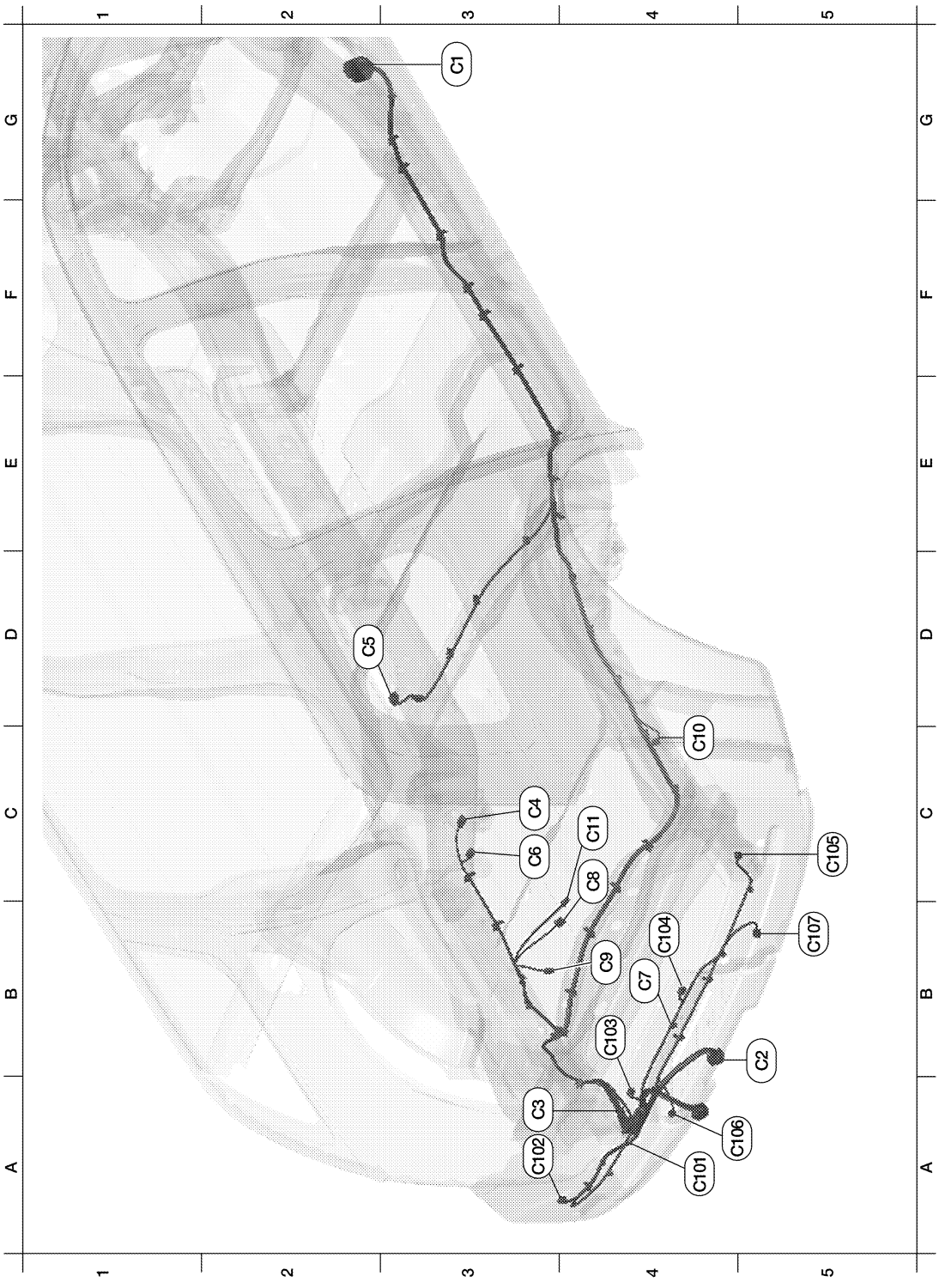
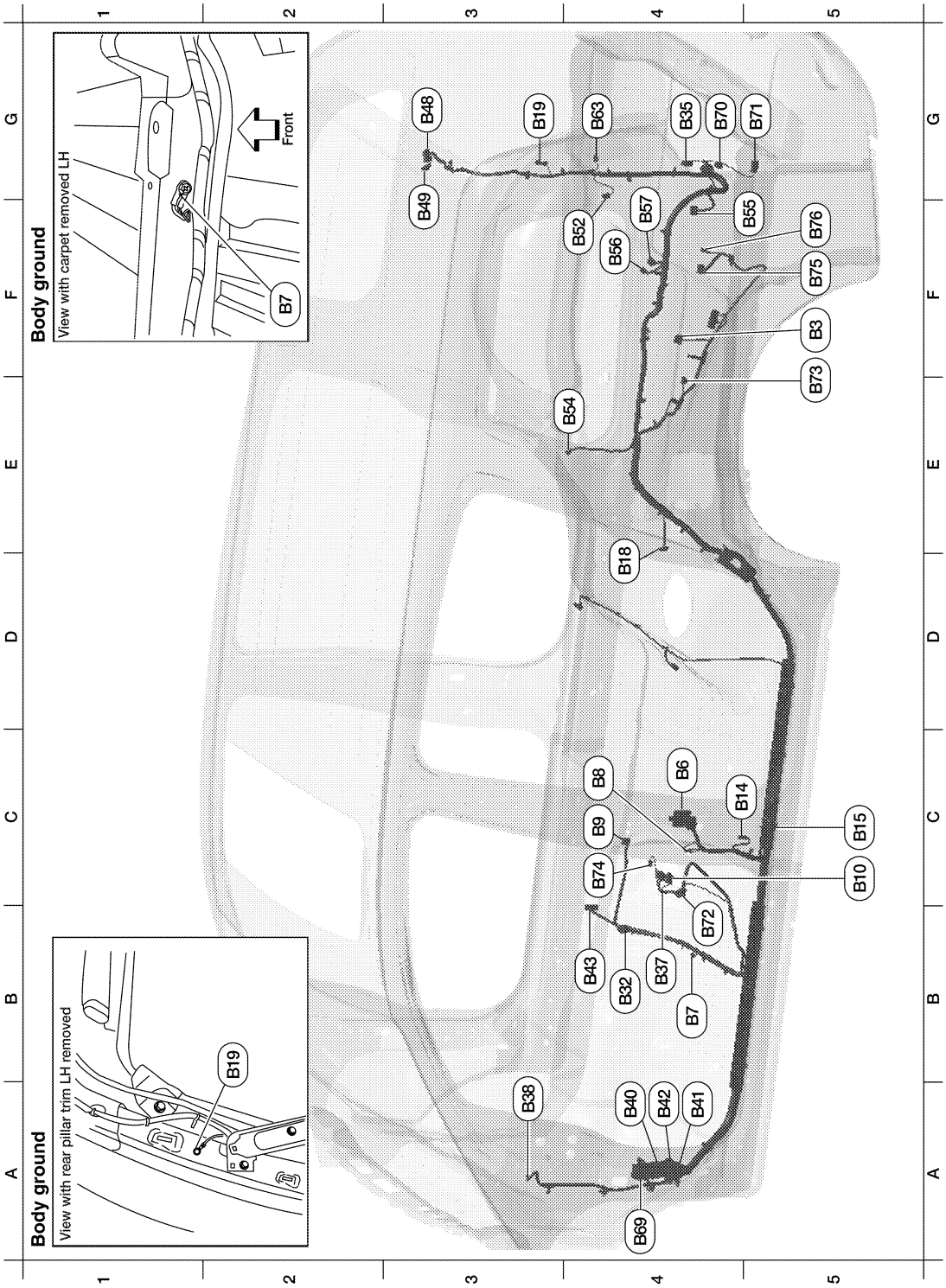
D5	F3	B/1	: A/C Compressor	F2	F56	B/8	: Transfer terminal cord assembly
D5	F4	GR/1	: Oil pressure switch	G1	F57	B/2	: Transfer motor
D2	F5	GR/4	: Air fuel ratio (A/F) sensor 1 (bank2)	F2	F58	GR/6	: Transfer control device (actuator, position switch)
C4	F6	GR/3	: Ignition coil No. 2 (with power transistor)	F2	F59	B/2	: Wait detection switch

C3	F7	GR/3	: Ignition coil No. 4 (with power transistor)	F1	F60	GR/2	: Neutral-4LO switch
C3	F8	GR/3	: Ignition coil No. 6 (with power transistor)	D5	F61	G/2	: Intake valve timing control solenoid valve (bank 1)
E2	F9	G/10	: A/T assembly	D5	F62	G/2	: Intake valve timing control position sensor (bank 1)
C3	F10	—	: Engine ground	C4	F63	G/2	: Intake valve timing control solenoid valve (bank 2)
D3	F11	B/3	: Crankshaft position sensor (POS)	C4	F64	G/2	: Intake valve timing control position sensor (bank 2)
E1	F12	G/4	: Heated oxygen sensor 2 (bank2)	E3	F65	GR/4	: Air fuel ratio (A/F) sensor 1 (bank1)
F2	F13	G/4	: Heated oxygen sensor 2 (bank1)	C2	F68	B/2	: Water valve
B2	F14	W/24	: To E5	C3	F101	B/6	: To F26
D4	F15	L/2	: EVAP canister purge volume control solenoid valve	C3	F102	B/2	: Knock sensor (bank 1)
E5	F16	—	: Engine ground	C3	F103	GR/2	: Engine coolant temperature sensor
C4	F18	GR/2	: Fuel injector No. 2	C3	F104	B/2	: Knock sensor (bank 2)
D4	F20	GR/2	: Fuel injector No. 4				
F4	F21	W/2	: Condenser-1				
D3	F22	GR/2	: Fuel injector No. 6				
D4	F23	B/3	: Camshaft position sensor (phase)				
D4	F26	B/6	: To F101				
E3	F27	B/1	: Starter motor				
D4	F30	GR/2	: Fuel injector No. 1				
D3	F31	GR/2	: Fuel injector No. 8				
B2	F32	W/16	: To E2				
C2	F33	W/16	: To E19				
C2	F34	W/2	: To E39				
B3	F39	—	: Fusible link (battery)				
D4	F41	GR/2	: Fuel injector No. 3				
D4	F42	GR/2	: Fuel injector No. 5				
D3	F45	GR/2	: Fuel injector No. 7				
B4	F46	B/3	: Power steering pressure sensor				
E4	F47	GR/3	: Ignition coil No. 1 (with power transistor)				
E4	F48	GR/3	: Ignition coil No. 3 (with power transistor)				
E4	F49	GR/3	: Ignition coil No. 5 (with power transistor)				
D4	F50	B/6	: Electric throttle control actuator				
E4	F51	GR/3	: Ignition coil No. 7 (with power transistor)				
D2	F52	GR/3	: Ignition coil No. 8 (with power transistor)				
E5	F53	B/6	: Mass air flow sensor				
B2	F54	B/81	: ECM				
F1	F55	B/2	: ATP switch				



G2	C1	SMJ	: To E41				
B5	C2	B/7	: Trailer				
A3	C3	GR/8	: To C101				
C3	C4	GR/3	: Evap control system pressure sensor				
D2	C5	GR/5	: Fuel level sensor unit and fuel pump				

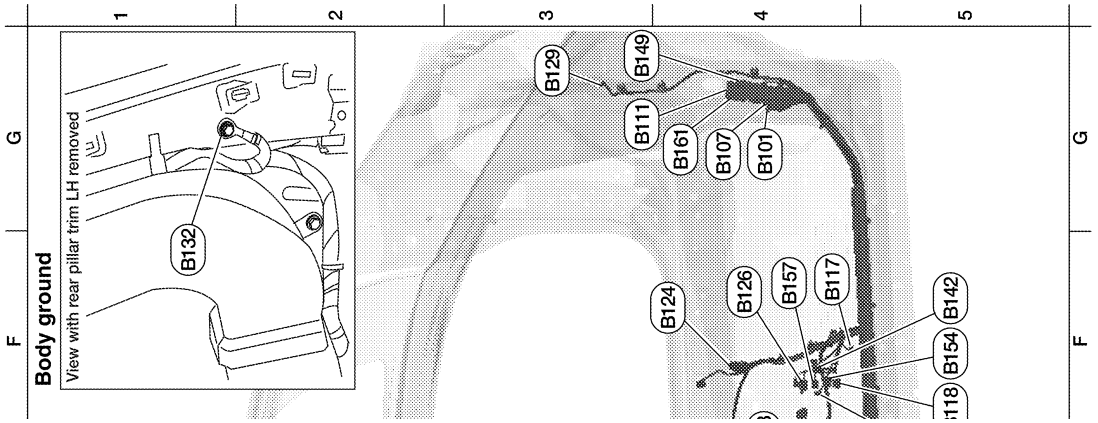
C3	C6	B/2	: Evap canister vent control valve				
B4	C7	GR/2	: Rear bumper antenna				
C4	C8	B/3	: Height sensor				
B4	C9	B/4	: Suspension air compressor				
C4	C10	BR/2	: Rear wheel sensor RH				
C4	C11	BR/2	: Rear wheel sensor LH				
Rear sonar sensor sub-harness							
A4	C101	B/3	: To C3				
A3	C102	B/3	: Rear sonar sensor LH outer				
B4	C103	B/3	: Rear sonar sensor LH inner				
B4	C104	B/3	: Rear sonar sensor RH inner				
C5	C105	B/3	: Rear sonar sensor RH outer				
C5	C106	GR/2	: License plate lamp LH				
B5	C107	GR/2	: License plate lamp RH				



F5	B3	W/16	: Suspension control unit				
C4	B6	W/18	: To D201				
B4	B7	—	: Body ground				
C4	B8	W/3	: Front door switch LH				
C4	B9	Y/12	: Air bag diagnosis sensor unit				

C5	B10	Y/2	: Front LH side air bag module				
C4	B14	Y/2	: Front LH seat belt pre-tensioner				
C5	B15	Y/2	: LH side air bag (satellite) sensor				
D4	B18	W/3	: Rear door switch LH				
G3	B19	—	: Body ground				
B4	B32	W/6	: To B124				
G5	B35	B/3	: Rear combination lamp LH				
B4	B37	W/3	: To B200 (without automatic drive positioner)				
B4	B37	W/16	: To B200 (with automatic drive positioner)				
A3	B38	Y/2	: LH side front curtain air bag module				
A4	B40	W/24	: To E34				
A4	B41	W/12	: To E35				
A4	B42	W/2	: To E36				
B4	B43	W/16	: To B111				
G3	B48	W/18	: To D401				
F3	B49	W/2	: To D402				
F4	B52	W/2	: Rear power vent window motor LH				
E4	B54	Y/2	: LH side rear curtain air bag module				
F5	B55	W/26	: Back door control unit				
F4	B56	GR/16	: Sonar control unit (front and rear)				
F4	B56	W/16	: Sonar control unit (front)				
F4	B57	GR/10	: Sonar control unit				
G4	B63	W/6	: Back door close switch				
A4	B69	SMJ	: To M40				
G4	B70	B/3	: Rear combination lamp LH				
G5	B71	B/2	: Back-up lamp LH				
B4	B72	BR/6	: Subwoofer				
E5	B73	W/16	: Rear view camera unit				
C4	B74	Y/4	: Seat belt buckle switch LH				
F5	B75	W/10	: To B400				
F5	B76	GR/2	: Inside key antenna 2 (luggage compartment)				

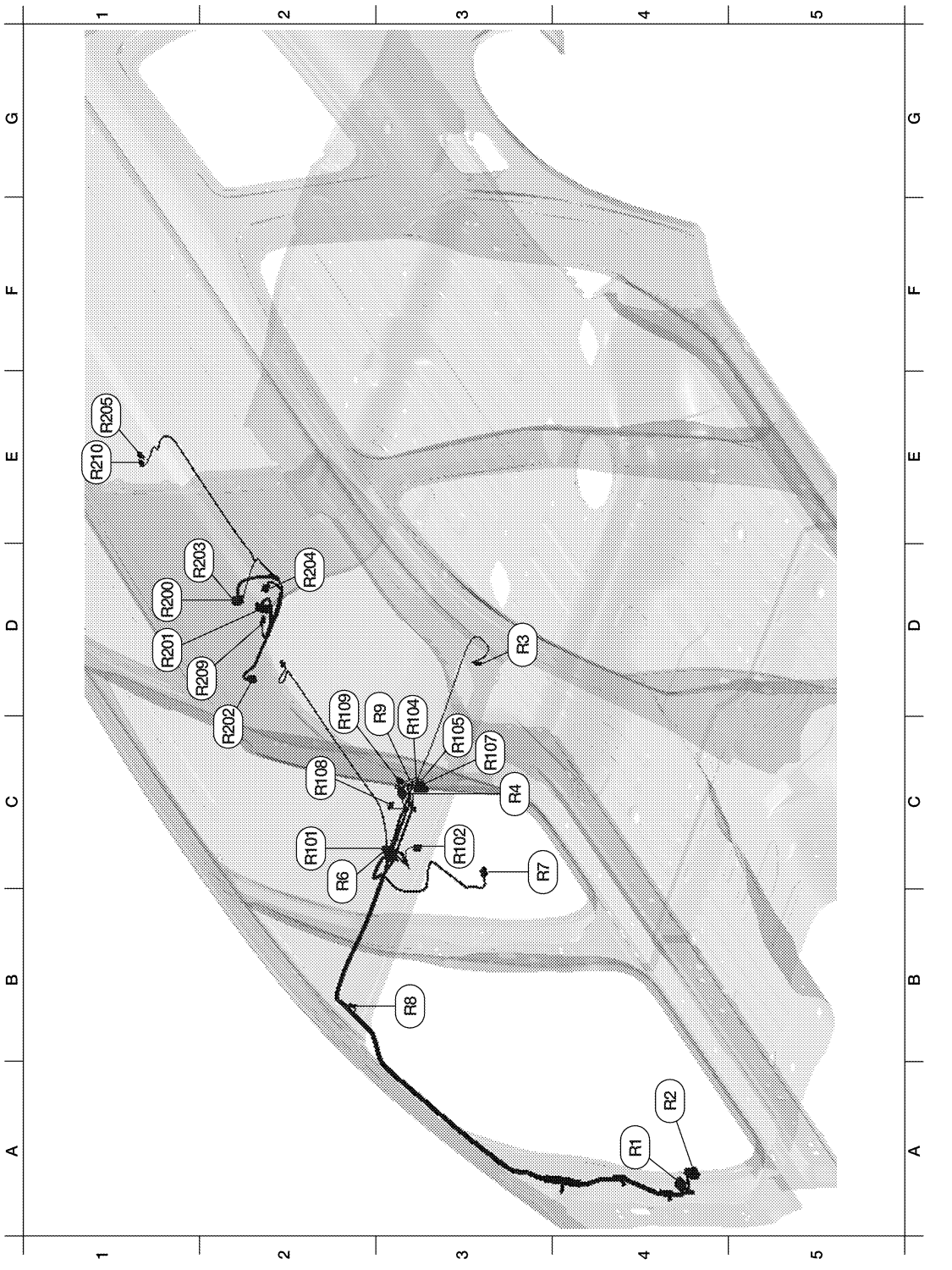
BODY NO. 2 HARNESS



G4	B101	W/16	: To M84				
A4	B105	B/3	: Rear combination lamp RH				
E4	B106	W/18	: To D301				
G4	B107	W/8	: To E139				
E4	B108	W/3	: Front door switch RH				
G3	B111	W/16	: To B43				
E4	B113	Y/12	: Air bag diagnosis sensor unit				
E5	B114	Y/2	: RH side air bag (satellite) sensor				
D4	B116	W/3	: Rear door switch RH				
F4	B117	—	: Body ground				
F4	B118	W/3	: Front seat heater RH				
A4	B119	W/2	: Condenser-3				
A3	B120	W/2	: Condenser-4				
F4	B124	W/6	: To B32				
F4	B126	Y/2	: Front RH side air bag module				
E5	B127	Y/2	: Front RH seat belt pre-tensioner				
C3	B128	Y/2	: RH side rear curtain air bag module				
G3	B129	Y/2	: RH side front curtain air bag module				
A4	B130	B/3	: Rear combination lamp RH				
A5	B132	—	: Body ground				
A5	B133	W/4	: Variable blower control (rear)				
B5	B134	W/2	: Rear blower motor				
A5	B135	B/2	: Back-up lamp RH				
E4	B136	W/8	: To B350				
E4	B137	W/3	: Belt tension sensor				
B3	B138	B/3	: Rear cargo power socket				
A3	B139	W/16	: To D602				
A2	B140	W/6	: To D601				
E5	B141	W/8	: Bluetooth control unit				
F5	B142	W/32	: Bluetooth control unit				
D2	B145	W/16	: To R200				
E2	B146	BR/24	: To R201				
G3	B149	SMJ	: To M36				
B3	B150	W/2	: Rear power vent window motor RH				
B2	B153	W/2	: Cargo lamp				
F5	B154	W/2	: To B303				
B4	B155	B/6	: Air mix door motor (rear)				
B4	B156	B/6	: Mode door motor (rear)				
F4	B157	Y/4	: Seat belt buckle pre-tensioner assembly RH				
G4	B161	W/20	: To M157				
C4	B162	BR/6	: Third row power folding seat switch RH side (front)				
B4	B163	BR/6	: Third row power folding seat switch RH side (rear)				

C4	B164	BR/6	: Third row power folding seat switch LH side (front)				
A4	B165	BR/6	: Third row power folding seat switch LH side (rear)				
B2	B166	B/2	: Rear sonar buzzer				

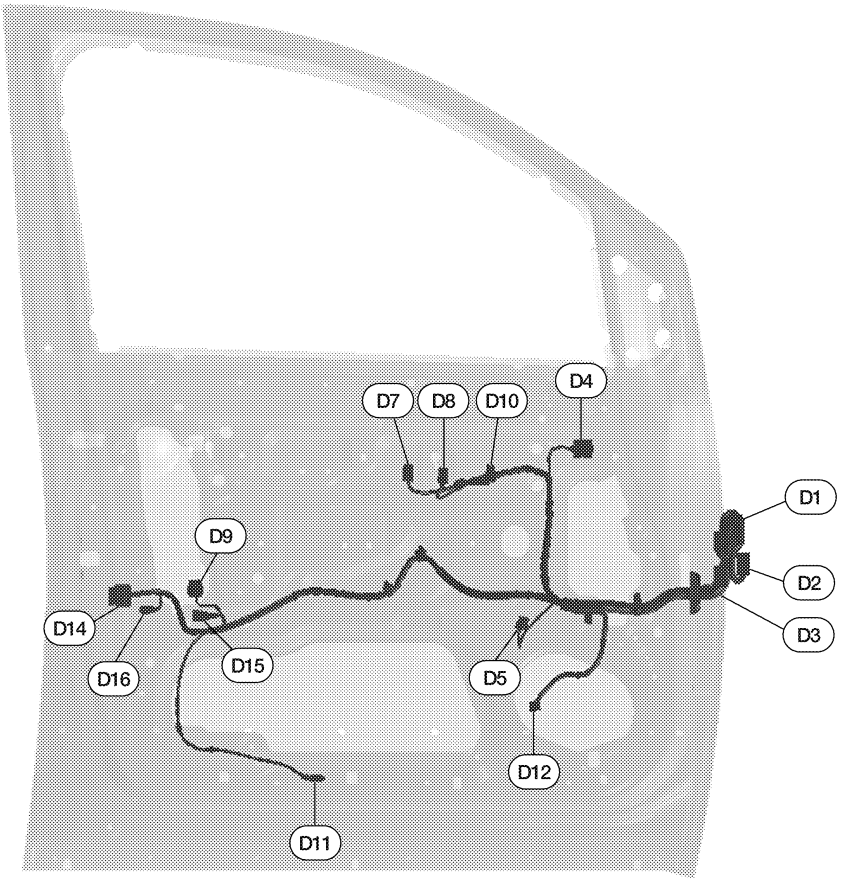
ROOM LAMP HARNESS



ALMIA0219GB

A4	R1	W/16	: To M1	C3	R107	W/8	: To R9
A4	R2	W/12	: To M2	C2	R108	B/6	: Rear air control (front)
D3	R3	W/2	: Vanity lamp LH	D2	R109	W/4	: Microphone
C3	R4	GR/10	: Sunroof motor assembly	Room lamp sub-harness B			
C2	R6	W/16	: To R101	D1	R200	W/16	: To B145
C3	R7	GR/10	: Auto anti-dazzling inside mirror	D1	R201	BR/24	: To B146
B3	R8	W/2	: Vanity lamp RH	C2	R202	W/12	: Video monitor
D3	R9	W/8	: To R107	D1	R203	W/3	: Personal lamp 2ND row
Room lamp sub-harness A				D2	R204	W/16	: Rear audio remote control unit
C2	R101	W/16	: To R6	E1	R205	W/3	: Personal lamp 3RD row
C3	R102	GR/8	: Front room/map lamp assembly	D2	R209	B/6	: Rear air control (rear)
D3	R104	GR/6	: Sunroof switch	E1	R210	W/2	: Inside key antenna 4 (over head console area)

FRONT DOOR LH HARNESS

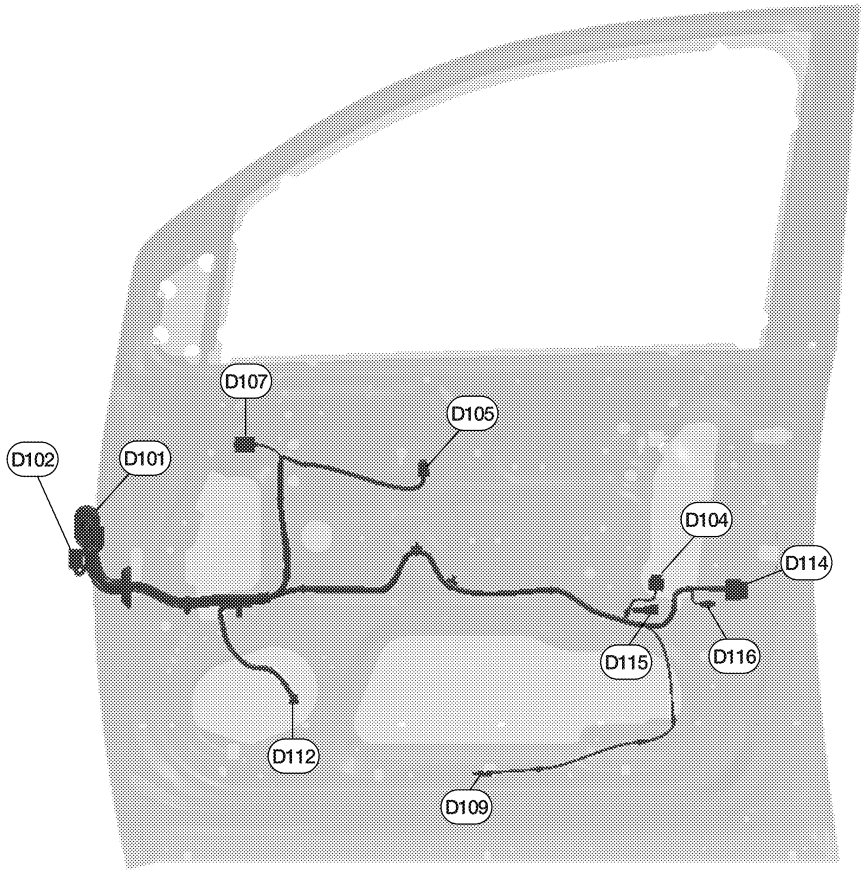


ALMIA0215GB

D1	W/24	: To M9	D9	GR/6	: Front power window motor LH
D2	W/16	: To M8	D10	W/16	: Door mirror remote control switch
D3	W10	: To M158	D11	W/2	: Front step lamp LH
D4	W/6	: Door mirror LH (without automatic drive positioner)	D12	W/2	: Front door speaker LH
D4	W/16	: Door mirror LH (with automatic drive positioner)	D14	B/6	: Front door lock assembly LH
D5	W/8	: Seat memory switch	D15	GR/2	: Front outside antenna LH

D7	W/16	: Main power window and door lock/unlock switch	D16	GR/2	: Front door request switch LH
D8	W/3	: Main power window and door lock/unlock switch			

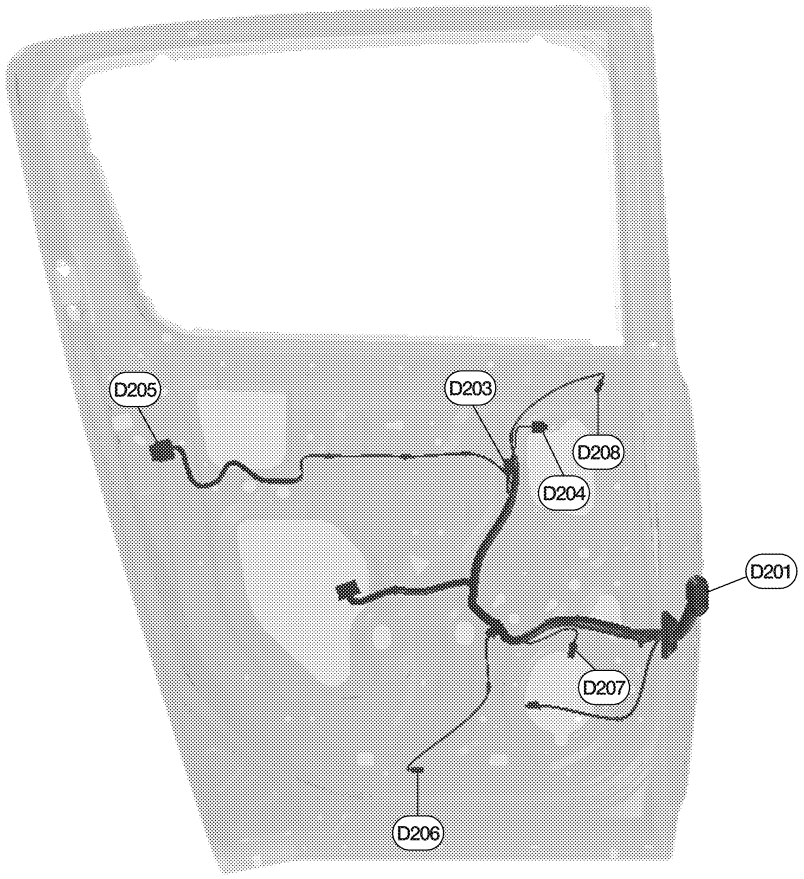
FRONT DOOR RH HARNESS



ALMIA0218GB

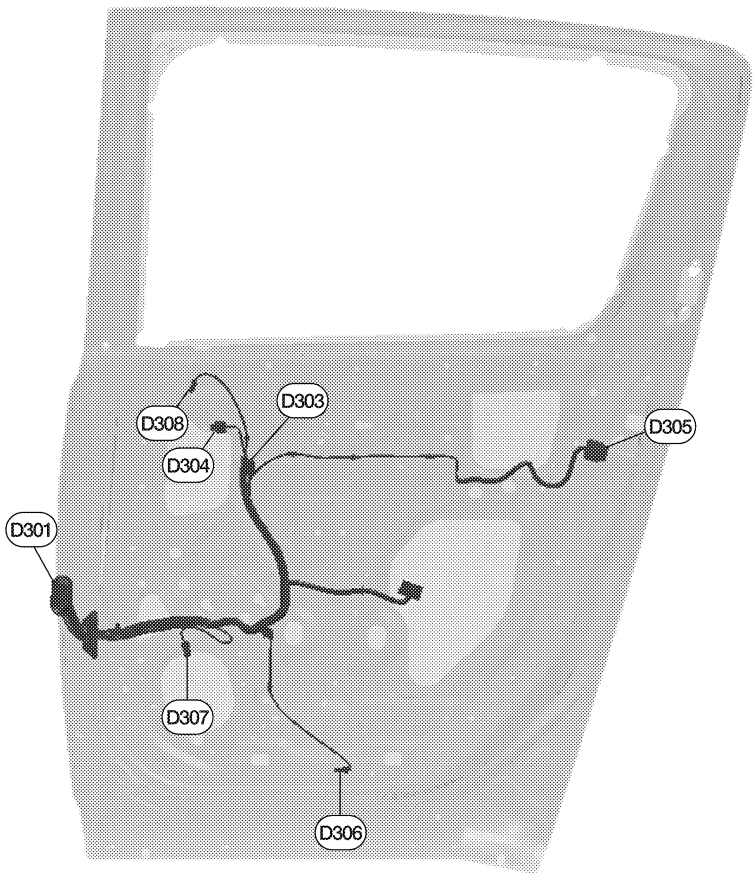
D101	W/10	: To M75	D109	W/2	: Front step lamp RH
D102	BR/20	: To M74	D112	W/2	: Front door speaker RH
D104	GR/6	: Front power window motor RH	D114	B/6	: Front door lock actuator RH
D105	W/16	: Power window and door lock/unlock switch RH	D115	GR/2	: Front outside antenna RH
D107	W/6	: Door mirror RH (without automatic drive positioner)	D116	GR/2	: Front door request switch RH
D107	W/16	: Door mirror RH (with automatic drive positioner)			

REAR DOOR LH HARNESS



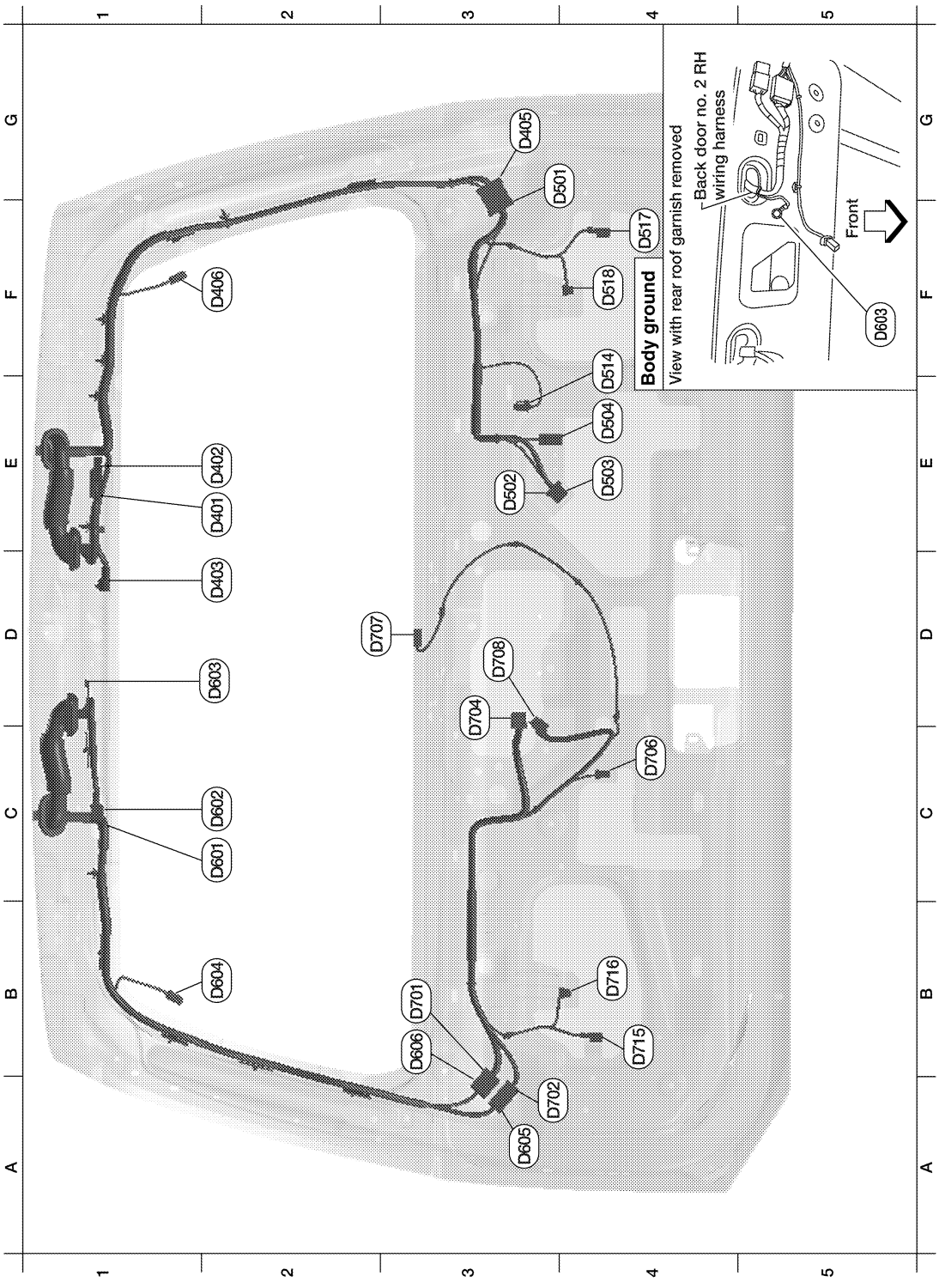
ALMIA0216GB

D201	W/18	: To B6			
D203	W/8	: Rear power window switch LH			
D204	GR/2	: Rear power window motor LH			
D205	B/6	: Rear door lock actuator LH			
D206	W/2	: Rear step lamp LH			
D207	W/2	: Rear speaker LH			
D208	BR/2	: Rear tweeter LH			



ALMIA0217GB

D301	W/18	: To B106			
D303	W/8	: Rear power window switch RH			
D304	GR/2	: Rear power window motor RH			
D305	B/6	: Rear door lock actuator RH			
D306	W/2	: Rear step lamp RH			
D307	W/2	: Rear speaker RH			
D308	BR/2	: Rear tweeter RH			



Back door No. 2 harness				Back door RH harness			
E2	D401	W/18	: To B48	B3	D701	W/16	: To D606
E2	D402	W/2	: To B49	A3	D702	W/6	: To D605
D2	D403	GR/2	: High mounted stop lamp	D3	D704	W/6	: Rear wiper motor
G3	D405	W/18	: To D501	C4	D706	GR/2	: Back door handle switch

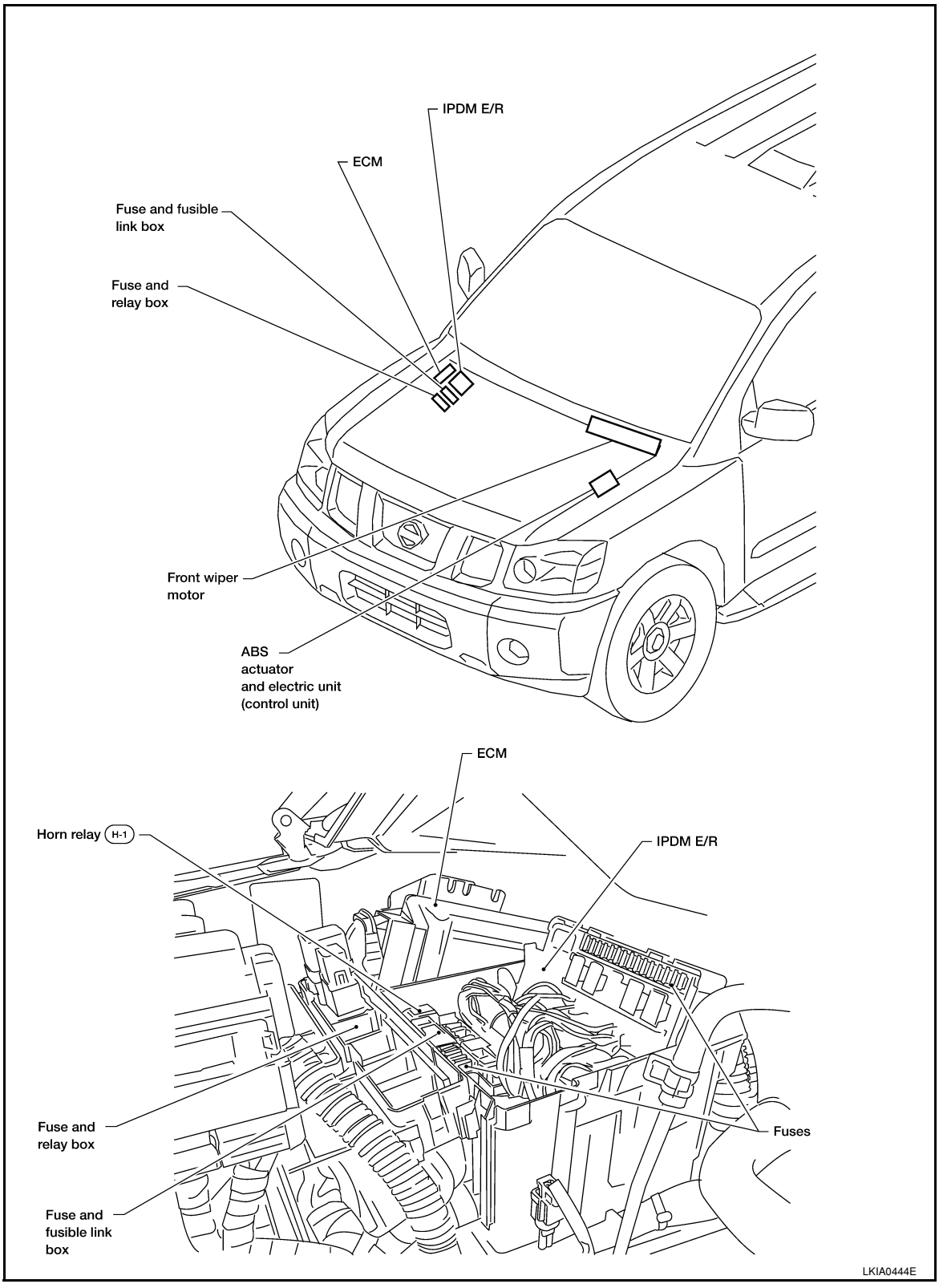
F2	D406	B/1	: Rear window defogger	D2	D707	B/1	: Glass hatch ajar switch
Back door LH harness				D3	D708	W/4	: Back door lock actuator
G3	D501	W/18	: To D405	B4	D715	BR/2	: Pinch strip RH
E3	D502	W/3	: Back door switch	B4	D716	BR/2	: Back door speaker RH
E4	D503	W/8	: Back door latch				
E4	D504	W/4	: Rear view camera				
F4	D514	BR/2	: Back door warning chime				
F4	D517	BR/2	: Pinch strip LH				
F4	D518	BR/2	: Back door speaker LH				
Back door No. 2 RH harness							
C2	D601	W/6	: To B140				
C2	D602	W/16	: To B139				
D2	D603	—	: Body ground				
B2	D604	B/1	: Rear window defogger				
A3	D605	W/6	: To D702				
B3	D606	W/16	: To D701				

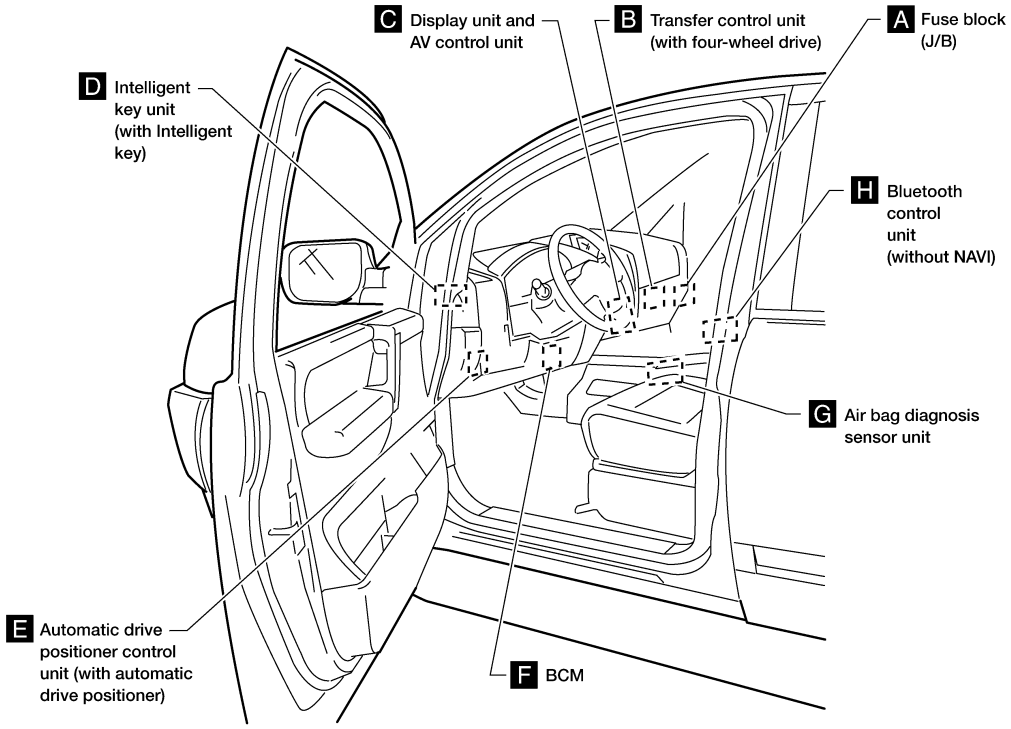
ELECTRICAL UNITS LOCATION

Electrical Units Location

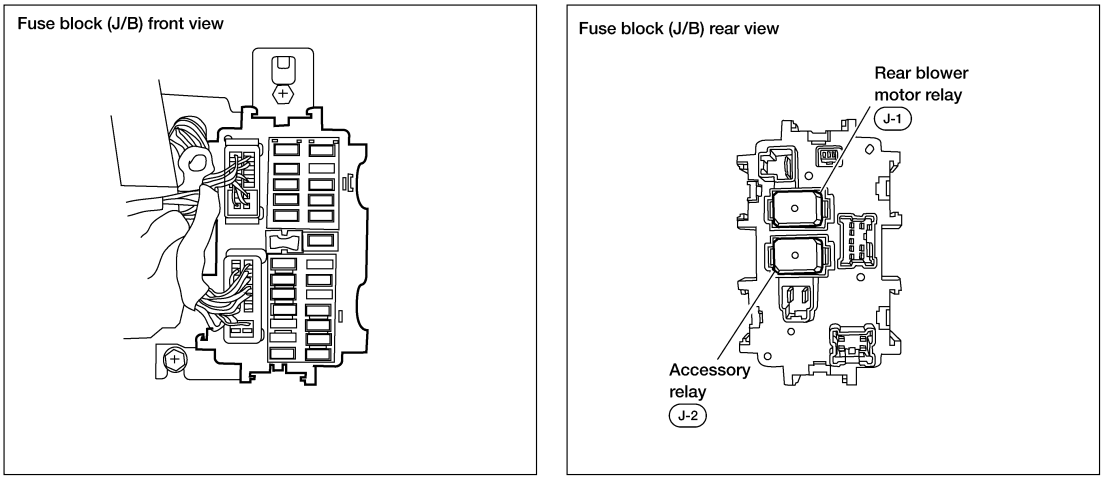
INFOID:0000000001283051

ENGINE COMPARTMENT



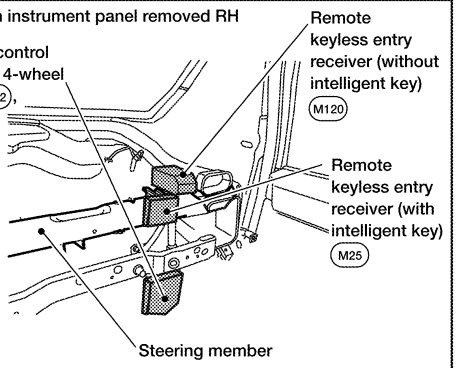


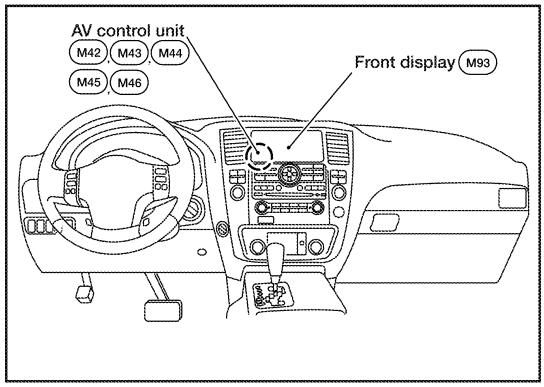
A



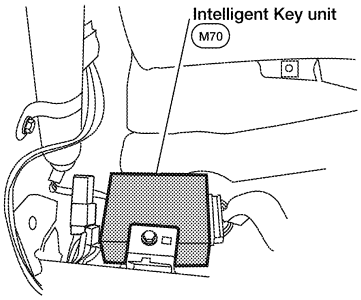
ALMIA0221GB

View with instrument panel removed RH

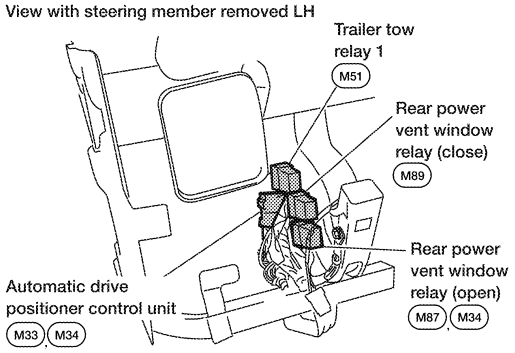


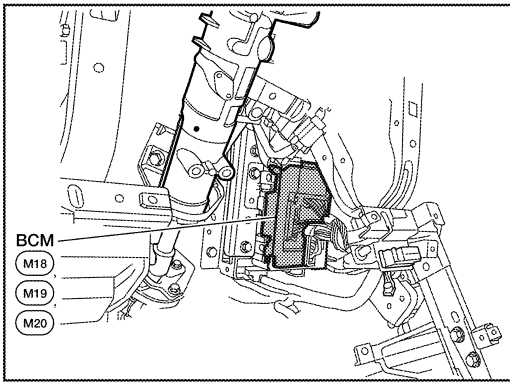


View with instrument panel removed LH

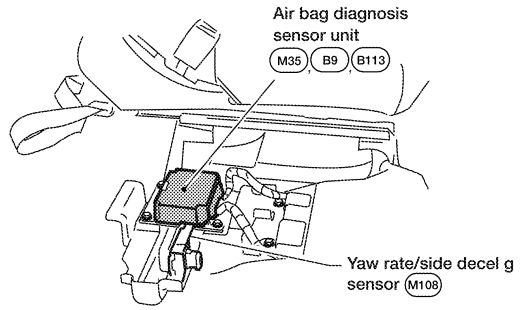


View with steering member removed LH

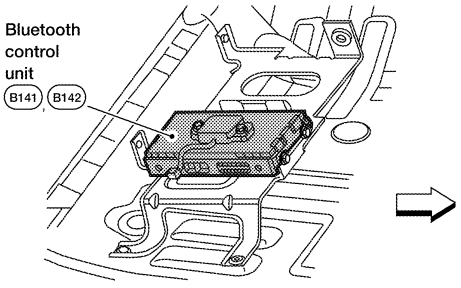




View with center console removed



View with passenger seat removed



ALMIA0222GB

HARNESS CONNECTOR

Description

INFOID:0000000001283052

HARNESS CONNECTOR (TAB-LOCKING TYPE)

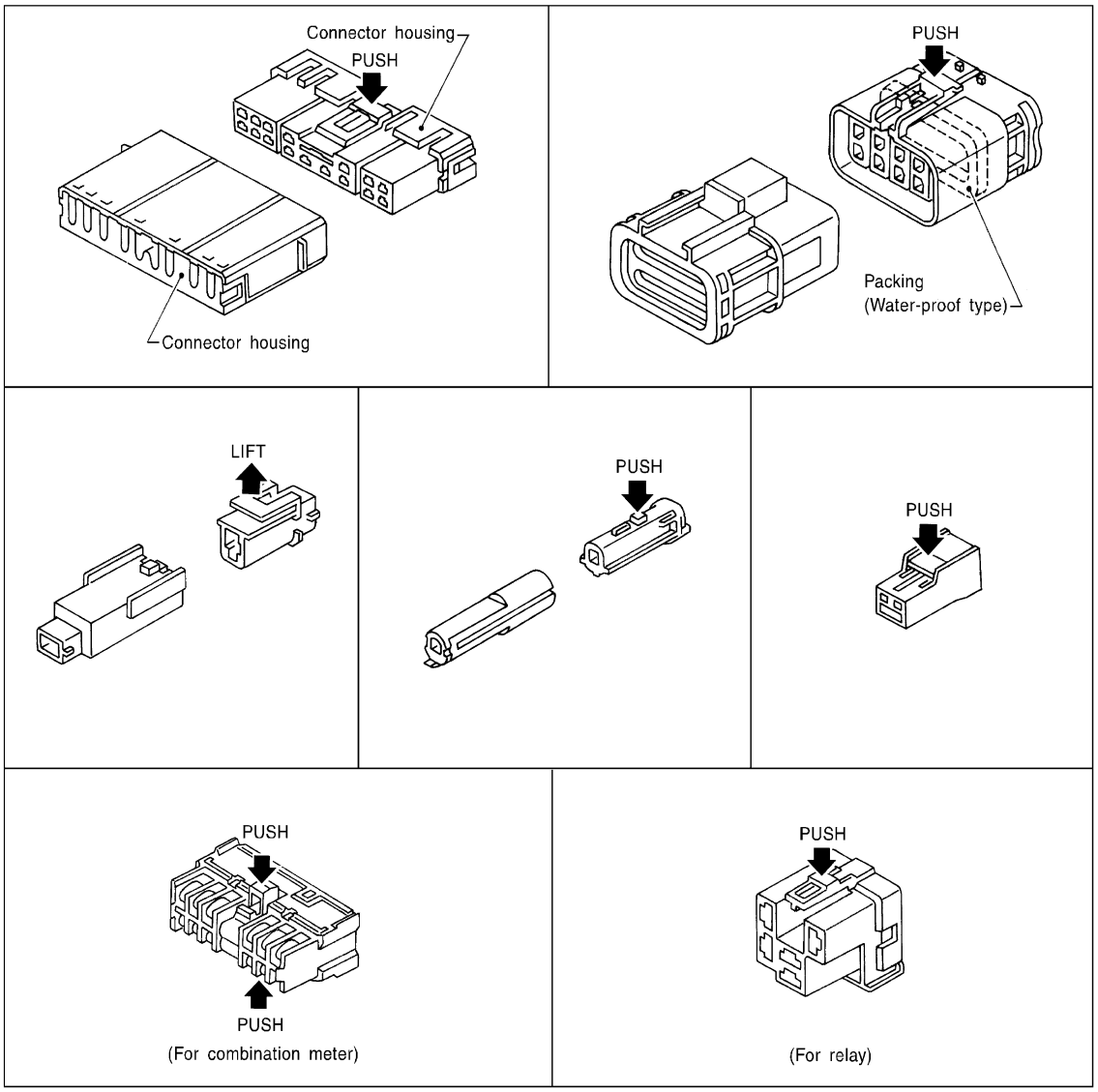
- The tab-locking type connectors help prevent accidental looseness or disconnection.
- The tab-locking type connectors are disconnected by pushing or lifting the locking tab(s). Refer to the figure below.

Refer to the next page for description of the slide-locking type connector.

CAUTION:

Do not pull the harness or wires when disconnecting the connector.

[Example]



SEL769DA

HARNESS CONNECTOR (SLIDE-LOCKING TYPE)

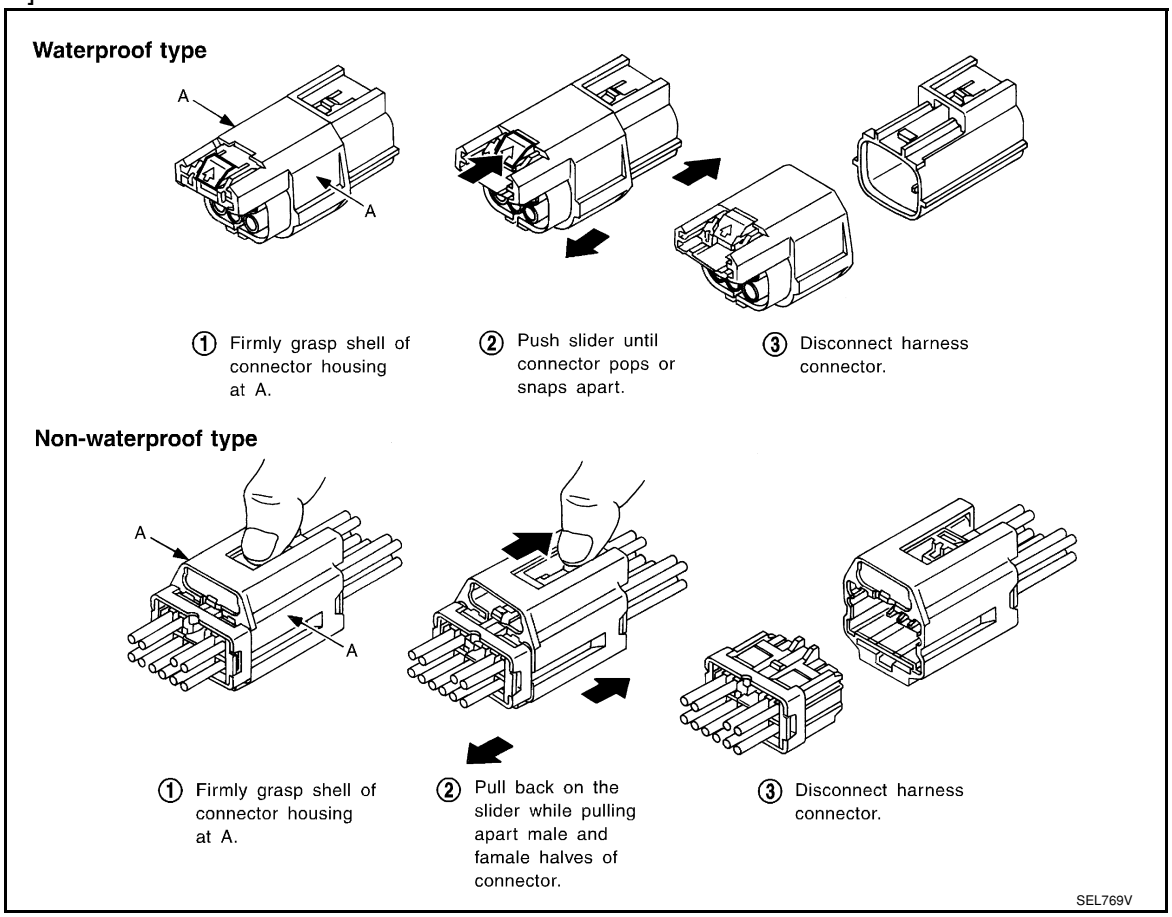
- A new style slide-locking type connector is used on certain systems and components, especially those related to OBD.
- The slide-locking type connectors help prevent incomplete locking and accidental looseness or disconnection.

- The slide-locking type connectors are disconnected by pushing or pulling the slider. Refer to the figure below.

CAUTION:

- **Do not pull the harness or wires when disconnecting the connector.**
- **Be careful not to damage the connector support bracket when disconnecting the connector.**

[Example]

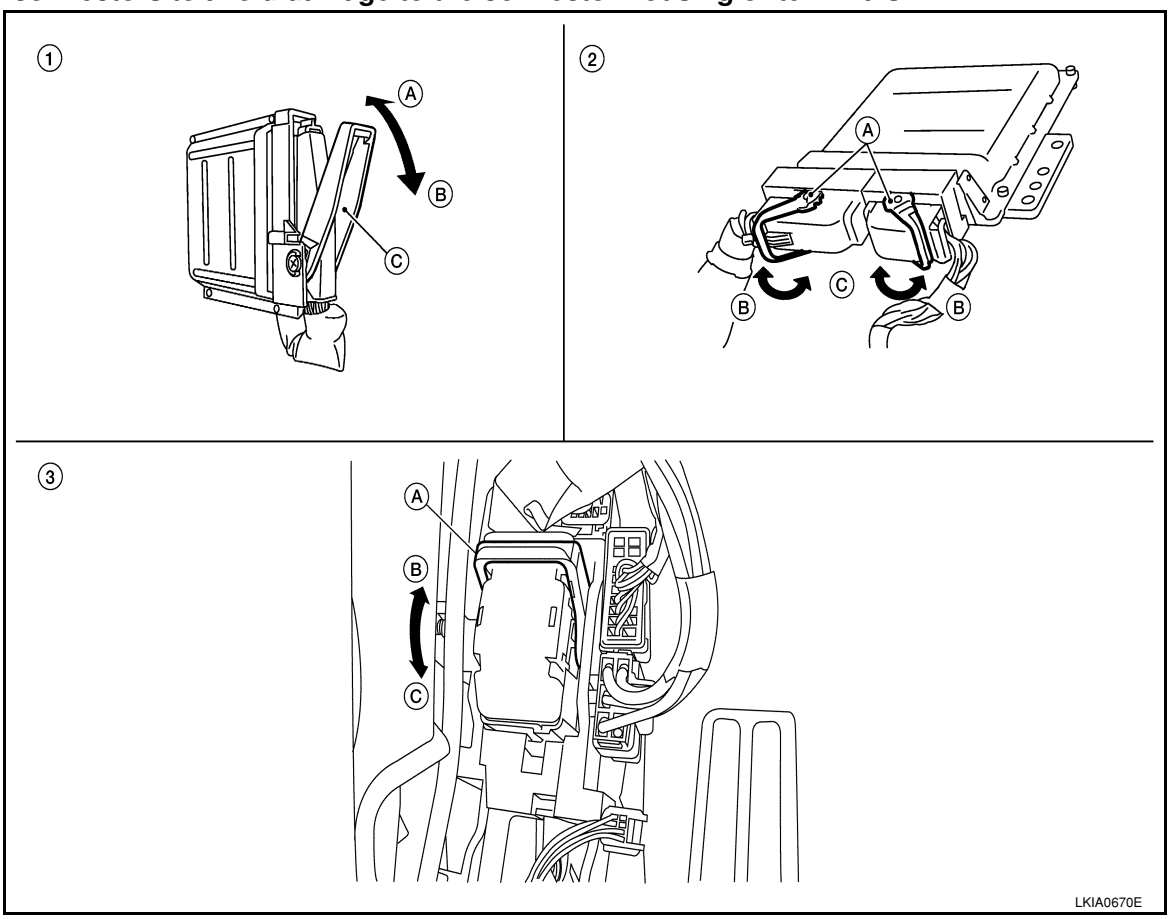


HARNESS CONNECTOR (LEVER LOCKING TYPE)

- Lever locking type harness connectors are used on certain control units and control modules such as ECM, ABS actuator and electric unit (control unit), etc.
- Lever locking type harness connectors are also used on super multiple junction (SMJ) connectors.
- Always confirm the lever is fully locked in place by moving the lever as far as it will go to ensure full connection.

CAUTION:

- **Always confirm the lever is fully released (loosened) before attempting to disconnect or connect these connectors to avoid damage to the connector housing or terminals.**



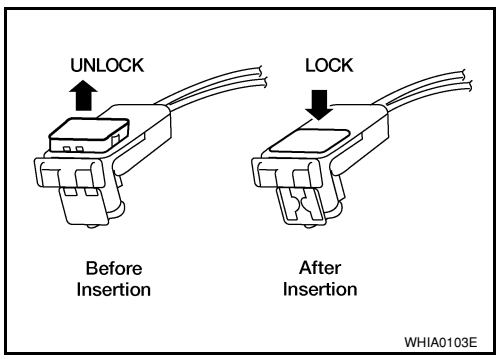
1. Control unit with single lever
   A. Fasten
   B.Loosen
   C.Lever
2. Control unit with dual lever
   A. Fasten
   B.Loosen
   C.Lever
3. SMJ connector
   A. Fasten
   B.Loosen
   C.Lever

HARNESS CONNECTOR (DIRECT-CONNECT SRS COMPONENT TYPE)

- SRS direct-connect type harness connectors are used on certain SRS components such as air bag modules and seat belt pre-tensioners.
- Always pull up to release black locking tab prior to removing connector from SRS components.
- Always push down to lock black locking tab afte4r installing connector to SRS components.n When locked, the black locking tab is level with the connector housing.

CAUTION:

- **Do not pull the harness or wires when removing connectors from SRS components.**



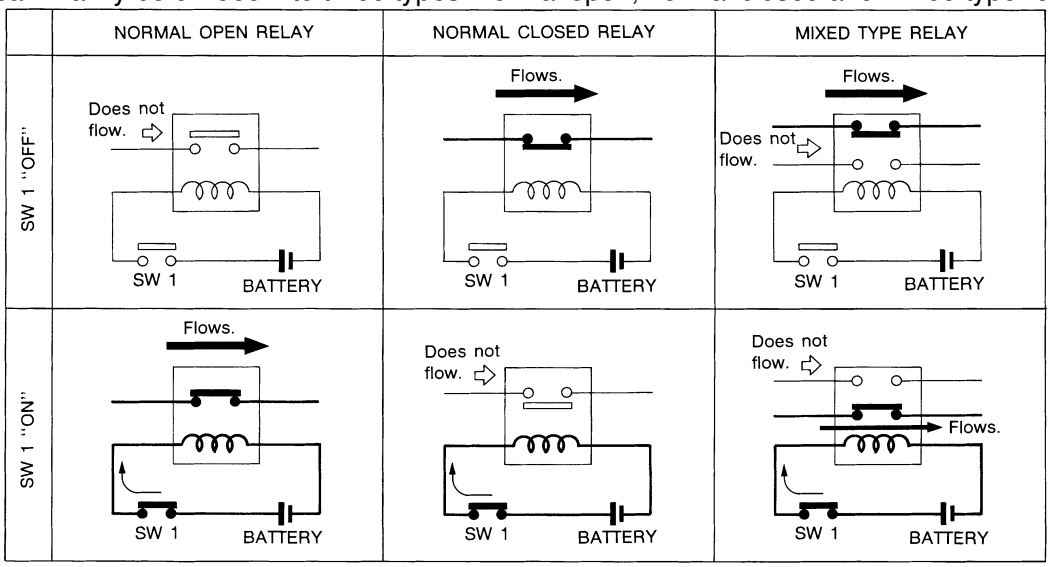
STANDARDIZED RELAY

Description

INFOID:0000000001283053

NORMAL OPEN, NORMAL CLOSED AND MIXED TYPE RELAYS

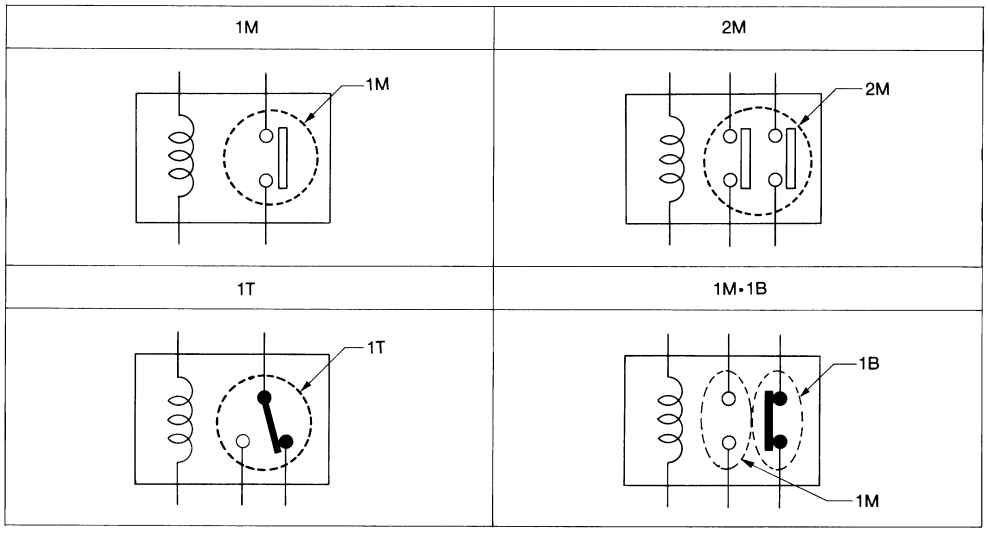
Relays can mainly be divided into three types: normal open, normal closed and mixed type relays.



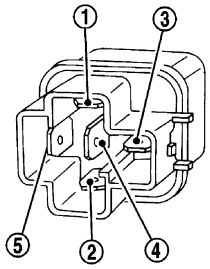
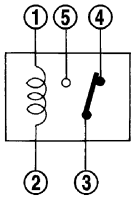
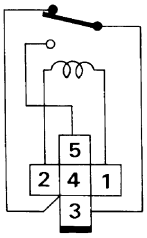
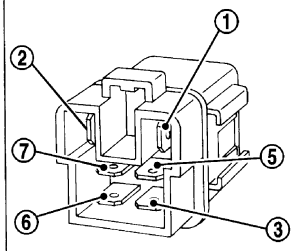
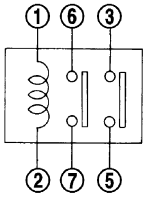
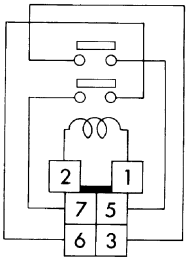
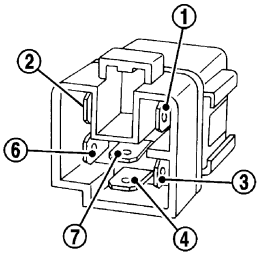
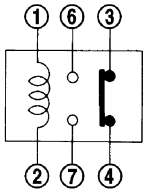
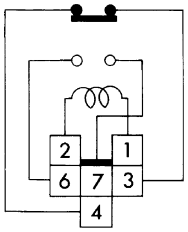
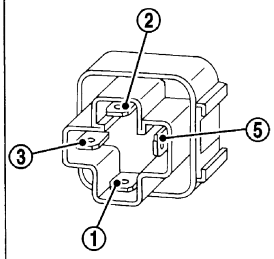
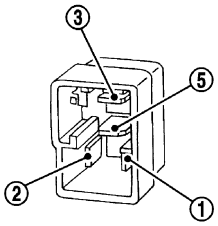
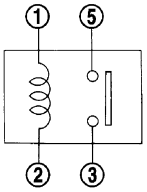
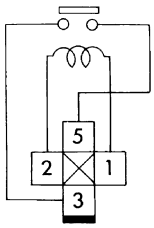
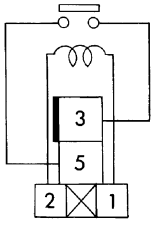
SEL881H

TYPE OF STANDARDIZED RELAYS

1M	1 Make	2M	2 Make
1T	1 Transfer	1M·1B	1 Make 1 Break



SEL882H

Type	Outer view	Circuit	Connector symbol and connection	Case color
1T				BLACK
2M				BROWN
1M•1B				GRAY
1M	 		 	BLUE

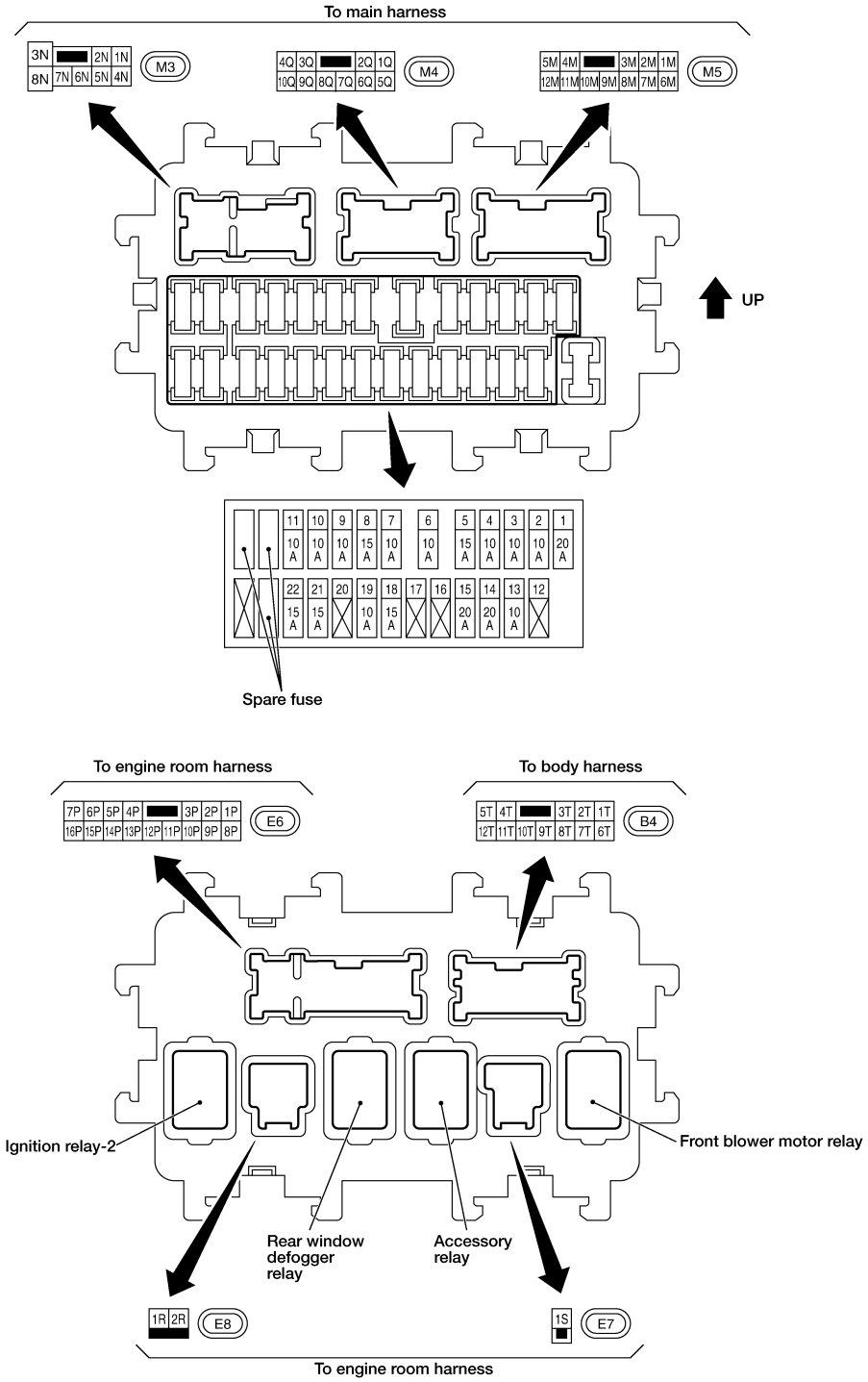
The arrangement of terminal numbers on the actual relays may differ from those shown above.

SEL188W

FUSE BLOCK - JUNCTION BOX (J/B)

Terminal Arrangement

INFOID:0000000001283054



ALMIA0014GB

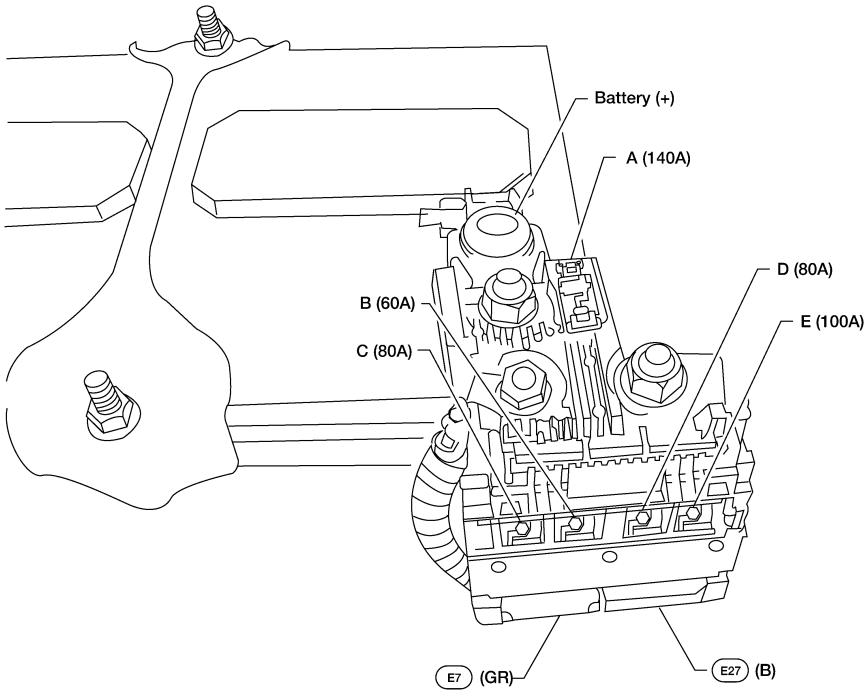
FUSE, FUSIBLE LINK AND RELAY BOX

Terminal Arrangement

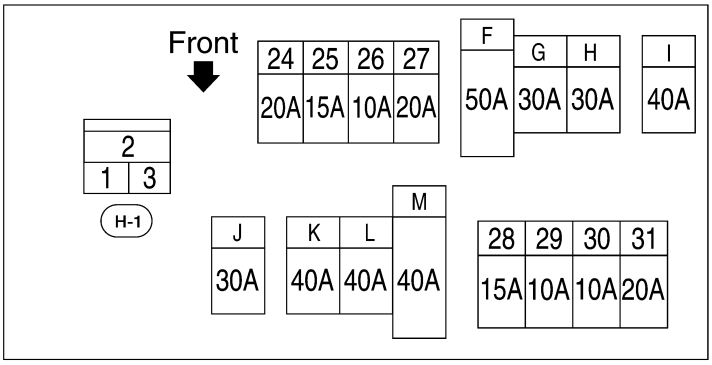
INFOID:0000000001283055

FUSE AND FUSIBLE LINK BOX

FUSE LINK BOX (BATTERY)

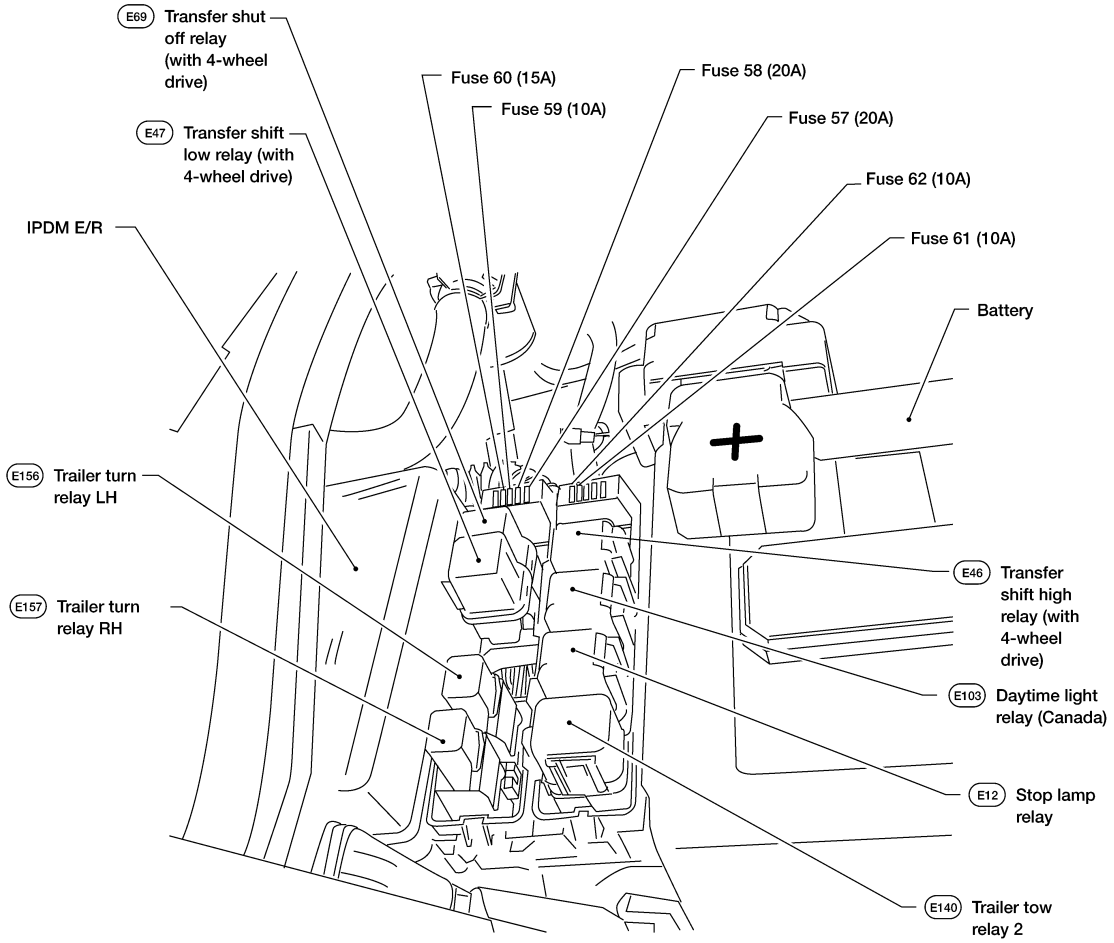


FUSE AND FUSIBLE LINK BOX



24 - 31 : FUSE F - M : FUSIBLE LINK

ALMIA0220GB



ALMIA0223GB

ON-VEHICLE REPAIR

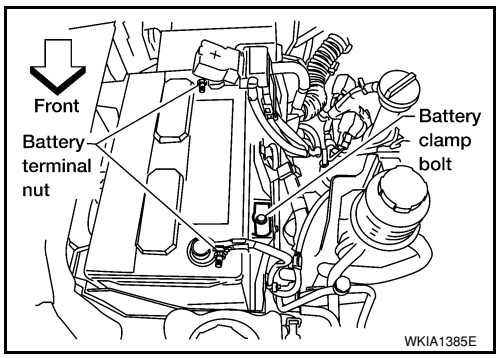
BATTERY

Removal and Installation

INFOID:0000000001538791

REMOVAL

1. Disconnect the negative battery terminal and positive battery terminal.
   CAUTION:
   Remove negative battery terminal first.
2. Remove the battery cover.
3. Remove the battery clamp bolt and battery clamp.
4. Remove the battery.



INSTALLATION

Installation is in the reverse order of removal.

CAUTION:
When installing, install the positive battery terminal first.

Battery clamp bolt	**: 14.7 N·m (1.5 kg-m, 11 ft-lb)**
Battery terminal nut	**: 3.5 N·m (0.36 kg-m, 31 in-lb)**

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Battery

INFOID:0000000001538792

	Standard battery	Heavy duty battery
Type	Gr. 24	Gr. 27
Capacity (20 HR) minimum V-AH	72	80
Cold cranking current A (For reference value)	650	710